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UGANDA PROTECTORATE

ANNUAL REPORT

OF THE

Medical Department

FOR THE

Year ended 31st December, 1947

PRICE: Shs. 2

Published by Command of His Excellency the Governor

ENTEBBE
PRINTED BY THE GOVERNMENT PRINTER, UGANDA
1949

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MEDICAL DEPARTMENT

ANNUAL REPORT

For the Year ended 31st December, 1947

SECTION I.—ADMINISTRATION

Staff

(i) *Headquarters.*—Throughout the year Medical Headquarters continued to function with a Director and an Acting Deputy Director, the latter an officer holding the substantive rank of Senior Medical Officer. The Assistant Director, who had proceeded to the United Kingdom on sick leave in November, 1946, returned to the Protectorate early in the year but died a few weeks after his arrival. A substantive Deputy Director was appointed but his transfer from another territory was delayed and he had not arrived at the end of the year. The Chief Matron went on leave pending retirement in February and the resultant vacancy remains unfilled. The Office Superintendent was seconded to the Education Department on his return from leave and certain of his duties were performed by an Administrative Assistant on temporary secondment to the Department. The Nutrition Officer resigned her appointment in December prior to being married. The general shortage of staff threw a heavy load on the available Headquarters personnel, who were called upon to deal with an increasing volume of work arising from the return of the Department to peace time conditions and the planning of post-war development.

(ii) *Provincial and District.*—During the year two Senior Medical Officers, in addition to the Senior Pathologist and the Senior Entomologist, proceeded on leave pending retirement. Two Senior Medical Officers were appointed on promotion from Zanzibar, and one Pathologist and five Medical Officers arrived on first appointment. The posts of Senior Pathologist and Senior Entomologist remained unfilled at the end of the year.

Although five Medical Officers arrived during the year, the available number of officers in this category was considerably below the approved establishment and only the fact that few were due for vacation leave during the year made it possible for existing services to be maintained. The recruitment of officers to complete the establishment was limited to some extent by the restricted housing accommodation available.

The wastage of Nursing Sisters due to marriage continued to be high, and the adequate staffing of hospitals remains a perennial problem.

The recruitment of Health Inspectors has not kept pace with the requirements of the Department. Two newly appointed officers arrived early in the year but several vacancies in the establishment remained unfilled and certain postings could not be maintained.

(iii) *Secondments.*—The Medical Officer seconded to the Seychelles in 1945 left for the United Kingdom towards the end of the year. He will return to the Protectorate on the expiry of his leave to assume duty as Senior Medical Officer (Health), Kampala.

(iv) Provision was made in the 1947 Estimates of expenditure for an Alienist, an Accountant, a Wardmaster, two Asian Medical Officers, a Pathologist, a Laboratory Assistant, an Optometrist and a Sister Tutor, but the vacancies remained unfilled at the end of the year.

2. Distinguished Visitors

Dr. A. F. Mahaffy, Secretary, Colonial Medical Research Committee, paid a brief visit.

Dr. A. J. Warren, Associate Director of the International Health Division of the Rockefeller Foundation in New York inspected the work which has been carried out by the Yellow Fever Institute.

Dr. D. B. Wilson, Regional Director of the International Health Division of the Rockefeller Foundation for Africa and the Middle East, excluding the laboratory at Entebbe, also paid a flying visit at the same time as Dr. Mahaffy and Dr. Warren.

The death of Professor B. A. McSwiney which occurred early in the year, within six months of his return to the United Kingdom after a visit to the Protectorate, is recorded with deep regret.

3. Refugees

Two camps for Polish refugees, one at Masindi in Bunyoro District and one at Koja in Mengo District, still remain open, but the numbers in residence are steadily diminishing and the closure of one camp early next year is anticipated. Routine supervision is carried out by the staff of the Department, but almost all of the necessary work is now performed by the refugees themselves who after the training received during the past few years, have attained a fair degree of efficiency in most aspects of routine health work. The health of these refugees has remained consistently good, there having been no serious epidemics of infectious disease.

Cases of malaria occurred throughout the year with seasonal increases during the wet period. Amœbic dysentery was prevalent, but relapses of the disease contracted in the Middle East some years previously accounted for the majority of cases.

A number of the inmates of Koja Camp contracted schistosomiasis; the number of cases was not large. It is interesting to note that the majority of cases occurred in a group of women and girls who were found to have their own secluded and exclusive bathing place along the Lake shore. Closure of this bathing place was followed by a rapid decrease in the number of new cases reported.

4. Housing

In the principal townships of the Protectorate the housing shortage continues to be a serious and acute problem, affecting all sections, as well as all races, of the community. Building activities both by Government and by private enterprise have been energetic during the year, but overcrowding of the Asian population, in Kampala in particular, continues unabated. Immigration permits were withheld in the case of applicants who could not satisfy the Health Authorities that they had obtained proper housing accommodation, but the collusion of friends and relatives of immigrants made it difficult to sustain objections on these grounds, and in the case of Kampala overcrowding of the Asian population has reached serious dimensions. Such conditions, unless remedied at an early date, are likely to give rise to serious public health problems.

Of housing built by Government, a total of 22 European dwellings inclusive of three flats and ten cottages for the Government Hostel, were completed in Kampala during the year, while 40 more houses (including 18 flats and one Hostel cottage) are in course of construction. The European Hostel continues to be an unqualified success and as an institution is likely to be a permanent feature of Government housing provision for the non-family official. The three new blocks of flats providing in all 18 dwellings for Europeans are likely to be equally popular with married officers whose families are small.

Additional housing accommodation is under construction in Entebbe where the housing situation is most acute, and also in Gulu, Jinja and Masaka.

Particularly in Kampala, a considerable amount of non-Government building is in progress. Occupation permits were recommended in respect of 82 buildings during 1947 as compared with 96 in 1946 and 40 in 1945. The majority of these permits were for dwellings, but there has also been considerable industrial development. The paucity of adequate provision for the poorer class of Asian has led to a great deal of subdivision in the case of dwellings, the lease conditions of which envisaged, in each case, occupation by a single family only.

With the rapid growth of Kampala and the other main centres, there is coming into being a wage earning urbanised African class, which is becoming increasingly divorced from the land and from tribal influence. The need for educating these Africans in the ways of urban life and community responsibility, in the development of desirable community institutions, and in the need for the provision of decent housing and living conditions is of paramount importance. Although the solution of this problem has not advanced much beyond the stage of discussion, several plans are in the process of development. In rural areas the more primitive African still adheres to the circular wattle and daub hut with thatched roof, but the rectangular type of house built in brick and roofed with tiles or other permanent materials is becoming increasingly popular. The high cost of imported cement, and of local tiles and bricks has retarded progress.

5. Nutrition

The work carried out by the Nutrition Officer was mainly of the nature of fact-finding studies in connection with dietaries and their nutritional value on the basis of which the direction of future work could be determined. On the resignation of this officer the collection of data ceased. Investigations carried out over a period of 15 months indicate that in Uganda:—

(*a*) there is need for the scientific study of nutritional problems;

(*b*) it is important to ensure that existing knowledge is made use of and taken into consideration in formulating a policy;

(*c*) education in nutrition should go hand in hand with new knowledge;

(*d*) there are certain gaps in our knowledge which must be filled before constructive work can begin. These gaps include the analyses of foodstuffs from various parts of the country, the scientific study of all processing of food from time of harvesting to consumption and the accurate measurement of food consumption in small groups of the community;

(*e*) the physiological needs of the African should be determined.

Institutional diets in hospitals, prisons, labour camps, and the menus of the African Garden Restaurant, were reviewed and where necessary corrected. The Garden Restaurant, Kampala, is an interesting experiment in restaurant feeding for Africans and offers a unique opportunity for research into feeding habits and preferences, and their seasonal variation from year to year, since the African is free to choose the meal preferred in a place where his preference can be noted, In collaboration with the Nutrition Officer, an article on the principles of nutrition and the feeding of labour was compiled at the request of the Labour Commissioner, for inclusion in a handbook in course of preparation by the Labour Department.

No noticeable improvement has occurred in the state of immigrants from Ruanda–Urundi arriving in the Protectorate; among them, under nourishment and malnutrition are prominent features. Several commercial concerns which employ large labour forces of these immigrants now provide for new recruits to be given a short recuperative period, during which they are issued with generous rations and their ailments treated, before they are assigned to work. This action is said to have paid dividends in the form of an increased output of work and a reduction in the general sick rate.

6. Disposal of refuse and night soil

Kampala continues to be the only town in the Protectorate with a main sewage system and disposal works, but the indications are that new houses being built towards the periphery of the township will not be connected to this system for a considerable time.

In the larger centres the number of domestic septic tank installations for private dwellings is steadily increasing, but, generally, the majority of the premises in townships other than Kampala rely upon a bucket system of disposal. Suitable buckets are still in short supply, and expensive, and where the double bucket system fell into abeyance during the war, it has not yet been re-introduced. Conditions of collection and disposal in many areas are definitely unsatisfactory. Employment on such work is distasteful, the supervision of labour is inadequate, arrangements for transporting and cleansing buckets are primitive and there are grounds for suspecting that the contents of many buckets are disposed of before the trenching sites are reached. In most instances where open drains have been constructed in sanitary lanes, ostensibly for the removal of storm water, advantage is taken by householders to use them as a means of disposing of sullage water and liquid excreta, and constant vigilance is necessary to prevent the occurrence of serious nuisances.

The methods of collection and disposal of domestic refuse referred to in previous reports were continued, a satisfactory standard of efficiency being maintained, although difficulties were experienced in obtaining adequate supplies of suitable containers. The compost factory operated by the Kampala Township Authority continues to be a model of its kind in East Africa, the output of marketable material exceeding 200 tons monthly.

7. Water Supplies

The provision of protected springs in rural areas is one of the more important of the activities of African Health Inspectors and Hygiene Orderlies. Boreholes as a source of supply are slowly but steadily increasing in number but potable water is not easily accessible to large numbers of the population.

The threatened failure of the pumping plant which maintains the water supply of Kampala gave rise to anxiety and caused some inconvenience to householders. Demands had increased to the capacity of the pumping plant and reticulation system, allowing inadequate opportunities for the overhaul and maintenance of machinery which had many years uninterrupted service. With a view to relieving the situation, the continuous service was discontinued and an intermittent service introduced; this action was not completely effective but after an economy campaign in which householders co-operated it became possible to revert to a continuous service. Throughout the period that an intermittent supply was provided, a bacteriological examination was carried out weekly. All reports were satisfactory.

In addition to the routine examination of samples of water from the main centres of population, samples from rural areas were also examined. On the whole, satisfactory reports were received on these samples, but in two instances the reports were such as to require positive action to be taken. The value of energetic action based on water analyses is illustrated by the case of Tororo where, because of adverse reports, the Government Chemist was invited to inspect the system and, as a result of his findings, adjustments were made which resulted in a satisfactory supply.

8. School Medical Service

Owing to shortage of staff, it has not been possible to introduce a comprehensive school medical service. In Kampala the medical inspection of school children was performed by the Medical Officer of Health, with the assistance of an Assistant Medical Officer. Regular inspections were possible only at the Government European School, at Makerere College Demonstration School, and at the Government Goan School. Staff shortages limited the extent and scope of this work and any extensions to other schools in Kampala cannot be contemplated until additional qualified staff is available. The very high incidence of defects in Goan children is noteworthy, particularly in regard to pathological tonsils and dental and ophthalmological defects.

Medical examination of the children in some of the schools was carried out in a number of districts and where possible treatment was given for the defects found. During visits by medical officers talks on health matters were frequently given. Similar talks were also given by assistant health inspectors during their routine sanitary inspections of school premises.

Representations were made during the year to the Education Department on the need for organising physical training by the appointment of a qualified instructor.

Visits to rural schools have shown a relatively satisfactory standard of building and of accommodation where there are boarders. The larger schools built in recent years in permanent materials are, in general, properly designed and maintained, but the older "bush" schools, usually constructed of temporary materials, are frequently hygienically inadequate. They may be well ventilated, being very open, but over-crowding is rife and the sanitation facilities are insufficient and unsatisfactory in some cases. Where such conditions prevail, instruction in hygiene is not likely to make a lasting impression on the pupils; further, where teachers' houses are of an equally poor standard it is asking too much to expect classes in this subject to be conducted with any degree of enthusiasm. Recommendations made to the proper authorities have resulted in improvements being carried out in a number of instances.

9. Labour

Owing to shortage of staff it was not possible to second to the Labour Department a Senior Medical Officer as adviser to the Labour Commissioner on all matters pertaining to the medical care and health of labour.

Throughout the year, the inspection of labour lines and industrial undertakings was carried out by District Medical Officers during routine tours of their districts.

More attention is being paid by commercial concerns to the conditions under which their employees are accommodated and in a number of instances the building of labour lines in permanent materials, with reasonable amenities, has commenced.

The increasing interest being taken by certain employers in the physique and well-being of their labour is most encouraging; a standard is being established which other employers will be expected to achieve in due course.

To combat the risk of underground workers contracting silicosis, a risk which had become evident in previous years, a system of wet drilling has been introduced by Kagera Mines Ltd., in their tin mines at Mwirasandu. No cases of this disease were notified during the year under review.

Commencing on the 1st February, a free issue of 4 lbs. of sugar per month was sanctioned for all unestablished Government employees provided that they attended the maximum number of working days in a month, and from the 1st August an additional stimulus in the form of a cash attendance bonus was approved. An analysis of labour returns before and after the introduction of the latter concession shows that it has had the effect of reducing absenteeism.

10. Communicable and Infectious Diseases

The year has been one in which there has been a general decrease in the incidence of the major communicable and infectious diseases other than malaria, syphilis and gonorrhoea. There has been a marked fall in the number of cases of blackwater fever, a disease which at one time in the medical history of the Protectorate was a serious cause of mortality and morbidity; trypanosomiasis has fallen to exactly half the cases reported in 1946, a result attributable to the regular medical inspections of the population at risk and to the vigilance maintained by District Medical Officers. The discovery within the Protectorate, of cases of trypanosomiasis among immigrants from infected areas in Tanganyika, or from Ruanda–Urundi who had travelled through such areas, confirmed that the pass system maintained on the Tanganyika–Uganda border was not operating effectively—a cause for anxiety in view of the prevalence of the insect vectors of this disease.

Supplies of paludrine arrived and the use of this drug in the prophylaxis and treatment of malaria was extended. Reports on its effectiveness in the dosage advised by the manufacturers have been conflicting, and there has been some loss of confidence on the part of both Government medical officers and private practitioners.

11. Public Health Administration

The work of revising the 1937 Drainage and Sanitation Rules was completed. The draft Rules were considered by the Central Advisory Board of Health and were subsequently submitted to Government for approval.

12. Maternity and Child Welfare

Maternity and child welfare work in rural areas, together with visits to dispensaries, has continued to occupy a large share of the time of the European medical and nursing staff. There is a constant demand from almost every district for additional maternity centres, but the number for which trained staff can be provided is limited, as is the number of medical officers and nursing sisters available for their supervision; it is, therefore, impossible to open as many centres as are necessary until African nurses and midwives attain a higher standard of general and technical education, and what is even more important, develop a better sense of responsibility.

The number of confinements reported from maternity centres shows an increase but the success of a centre should not be judged on such statistics alone. Ante-natal attendances are probably the better criterion, and it is encouraging that the number of expectant mothers attending the clinics continues to rise. This is particularly noticeable at those centres where the clinics are regularly conducted by nursing sisters whose help and advice is becoming increasingly sought.

Child Welfare Clinics have not yet attained the same degree of popularity, the great difficulty being to convince the African mother that there are advantages in bringing for examination a child with no obvious signs of diseases in consequence most of the child welfare clinics are little more than clinics for sick children, but propaganda and education are having an effect and the underlying principle is gradually being understood.

13. Medical Education

The future of medical work in this country is dependent upon the training of Africans to a standard which will enable them to take over many of the duties which are at present performed by Europeans. The training of assistant medical officers is organised by Makerere College; the pre-clinical subjects are taught by members of the staff of the College, but clinical teaching is given in Mulago Hospital by Medical Department staff.

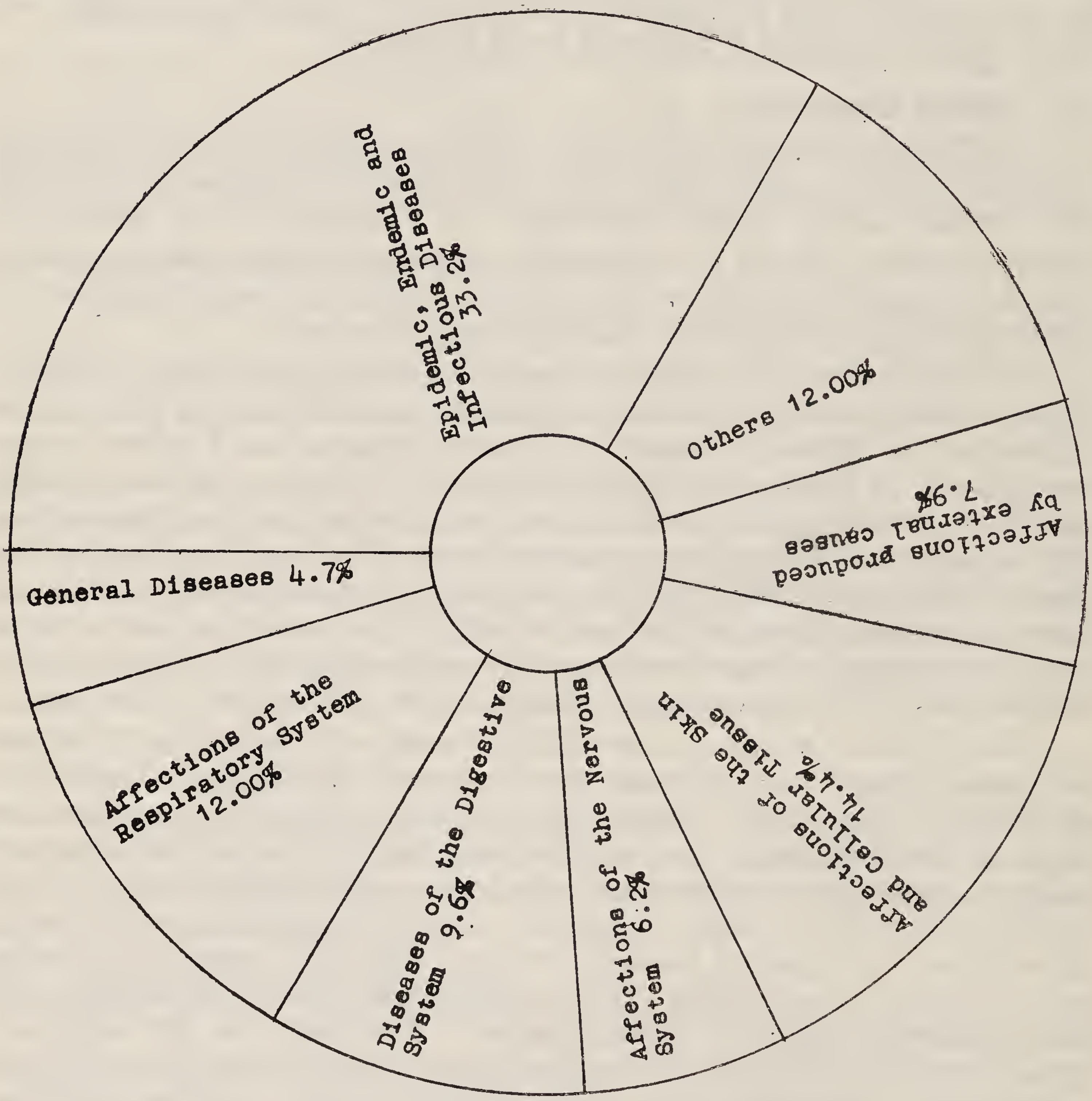
At Mulago Hospital, facilities are provided for training medical assistants, nurses, assistant health inspectors and dispensers, while training centres exist at Masaka for medical assistants and nursing orderlies, at Lira for nursing orderlies and at Mbale for hygiene orderlies. The centres at Lira, Masaka and Mbale were originally established and controlled by the Civil Reabsorption Organisation, but during the year under review, they were transferred to the Medical Department which absorbed them into its general training programme. Trainees in these centres are still all ex-military personnel and it is expected that such personnel will continue to provide sufficient trainees to fill the centres until the end of 1949; subsequently trainees will be drawn from civil sources.

The Hygiene Orderly is a new class of worker. The course of training has been designed to equip these men to spread the "gospel of preventive medicine" in rural areas. Instruction is mainly practical and trainees are taught to use their hands, the intention being that they should be capable of taking an active part in demonstrating to the rural population how to make and lay bricks, how to build a house to a reasonable hygienic standard using the minimum of imported material, how to construct a sanitary pit latrine, how to protect water supplies from contamination and how to deal generally with conditions likely to spread disease. *They will not be inspectors.* Reports on the activities of hygiene orderlies already in the field are most encouraging. Their enthusiasm and efficiency must not be allowed to wane through lack of supervision.

The training of African midwives is not undertaken at Government institutions, but is carried out with considerable success by the Roman Catholic and Protestant Mission Training Centres at Nsambya and Namirembe. Grants-in-aid to these Institutions are made by Government in return for which midwives in adequate numbers are available for employment in the Medical Department. These Training Centres are also a source of supply to Government Hospitals of certificated African nurses, an arrangement which will continue until such time as the output from the Training Centre at Mulago Hospital is sufficient to meet the requirements of the Department.

DIAGRAM I

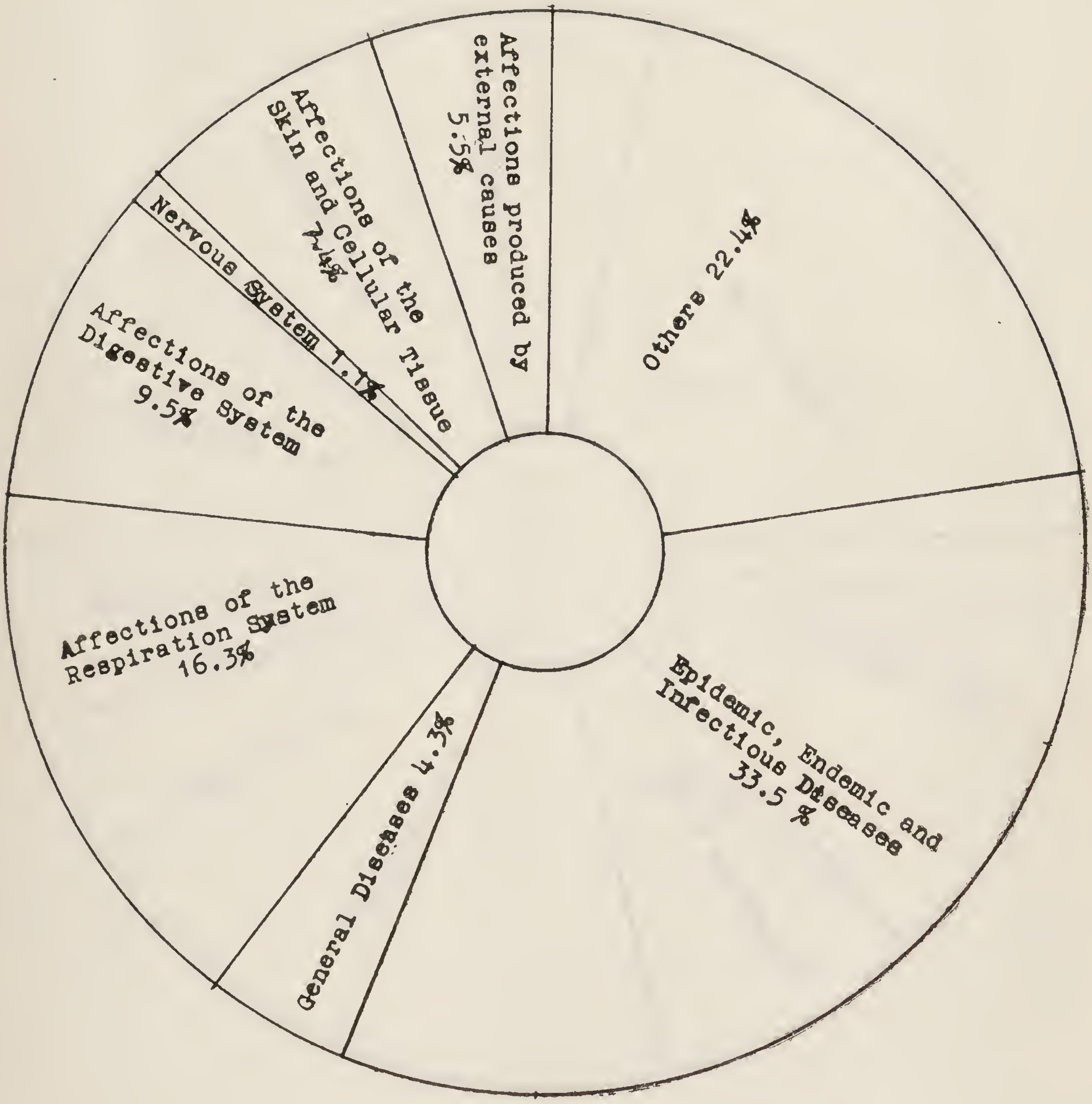
Diagram showing the Proportion of Epidemic, Endemic and Infectious Diseases treated at Government Hospitals excluding Rural Dispensaries



Total Incidence .. 832,439

DIAGRAM II

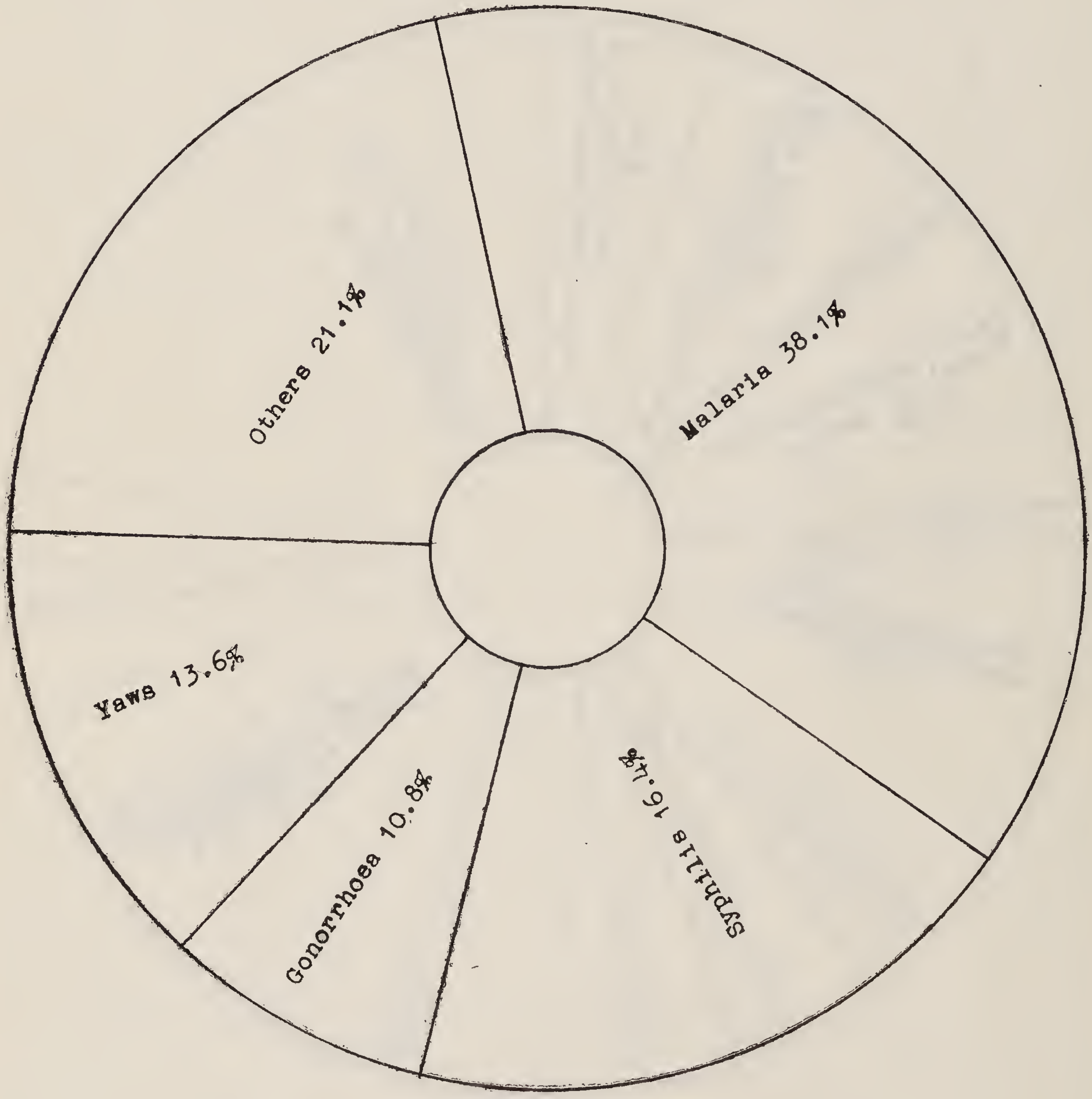
Diagram showing the Proportion of In-patients Deaths among the Group of Diseases



Total Deaths .. 2,893

DIAGRAM III

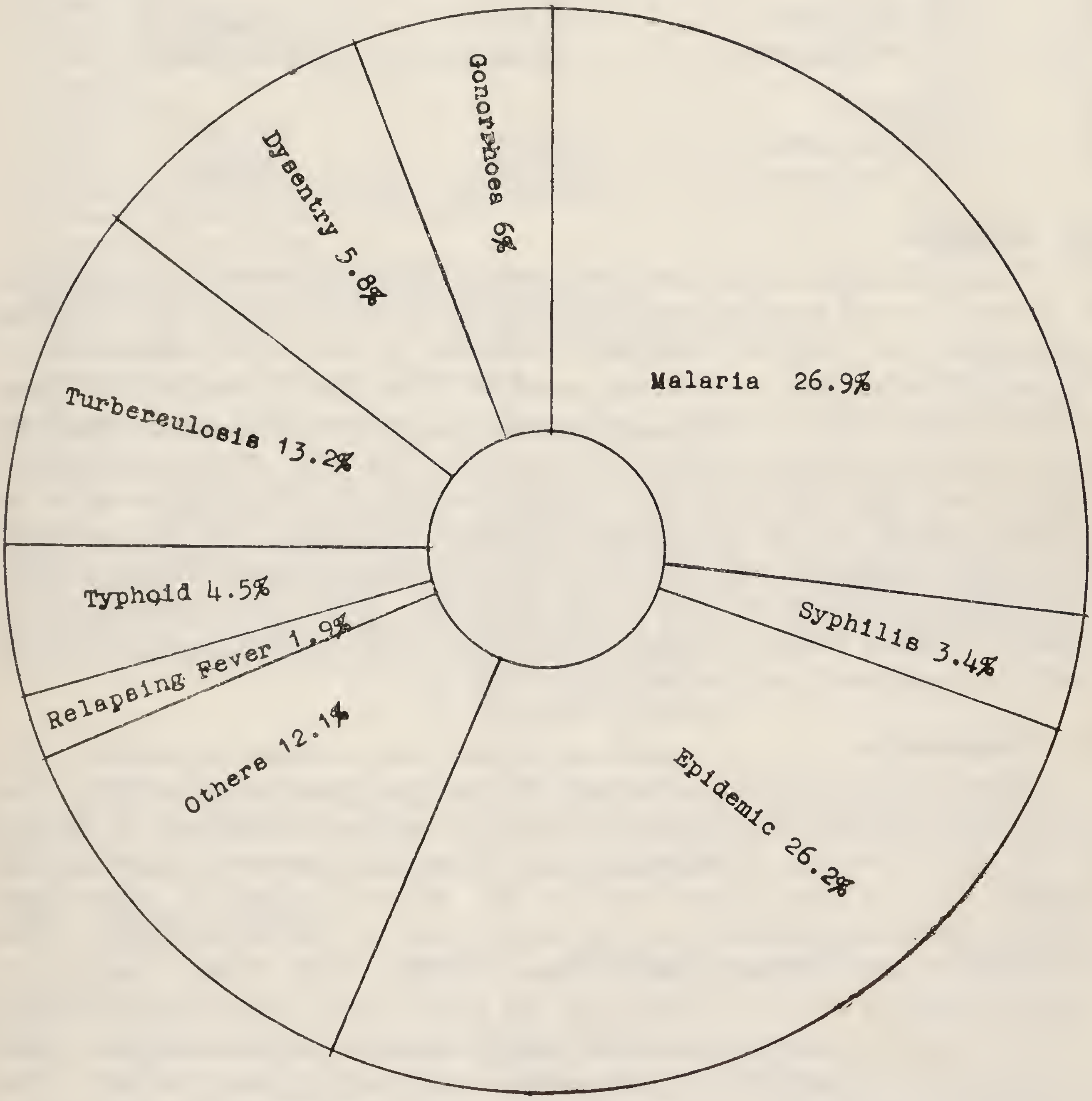
Diagram showing the Proportion of Epidemic, Endemic, Infectious Systemic and Other Diseases shown as percentages of total cases treated at Government Hospitals excluding Rural Dispensaries



Total Incidence .. 276,864

DIAGRAM IV

DIAGRAM SHOWING THE PROPORTION OF DEATHS FROM EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES AT GOVERNMENT HOSPITALS EXCLUDING RURAL DISPENSARIES



TOTAL DEATHS .. 969

SECTION II.—PUBLIC HEALTH

A.—General Remarks

14. Returns

The following table compares the attendances at hospitals and dispensaries with those of the previous year.

Hospital cases by Races (including examinations):—

	1946	1947
European—		
New cases	3,156	3,529
Admissions	1,376	1,235
Asian—		
New cases	13,118	12,491
Admissions	2,424	2,575
African—		
New cases	732,495	855,545
Admissions	77,429	79,642

15. Hospitals

No new hospital units have been erected during the year. A high order of priority having been accorded to housing in the Protectorate's building programme, no hospital buildings included in the 1947 Estimates of expenditure, other than a maternity ward at Mbale and an out-patients' clinic at Namasagali, work on which commenced the previous year, were completed. Some progress had been achieved at the end of the year on the erection of a laundry and pack store at Fort Portal hospital, on the reconstruction of existing rooms at the European Hospital, Kampala, to accommodate radiological equipment, and on extensions to the Mulago Mental Hospital which are urgently required to relieve over-crowding. The ward and theatre at Mulago Hospital which remained closed at the end of 1946 owing to lack of staff and equipment, were opened early this year.

16. Dispensaries

There were 131 dispensaries and 140 aid posts operating in 1947. One new dispensary was completed and two were under construction at the end of the year. Several dispensaries have been reconstructed either on the original site, or on a new site in the vicinity, closer to subordinate administrative headquarters, or to major lines of communication. Most dispensaries and sub-dispensaries have satellite "aid posts" situated at varying distances up to 15 miles from the parent unit, which are visited once or twice weekly by a member of the dispensary staff. These aid posts are of a very temporary nature and are liable to closure at short notice. Their retention is an indication of the enthusiasm of the local population for medical attention, for when this wanes the aid post is no longer visited. When enthusiasm remains high as a result of a strong community spirit and a progressive chief, the aid post is maintained and in a few years it may be replaced by a permanent building offering better medical facilities—the first stage of development to dispensary status. Aid posts are erected by the local population themselves as a community effort, whereas permanent dispensaries are built by the Native Government or Native Administration.

A few of the larger dispensaries are now in the charge of African assistant medical officers, but the majority are in charge of African medical assistants, who during their training receive, apart from nursing, instruction in elementary laboratory work and the diagnosis and treatment of the common diseases. Within the limits of their restricted knowledge, their work is good, but many have a tendency to pretend to greater ability than is justified by their training and experience. They are, however, fulfilling a useful function until such time as they can be replaced by responsible qualified personnel.

17. The following were the principal causes of deaths in station hospitals:—

	1946	1947
Total admissions	81,229	83,452
Total deaths	3,261	2,893
Typhoid fever	54	44
Dysentery	82	57
Cerebro-spinal meningitis	497	254
Tuberculosis of the respiratory system	117	119
Syphilis	35	33
Gonorrhoea	76	59
Malaria	265	261
Nutritional diseases	110	75
Diseases of the blood and blood forming organs	90	78
Diseases of the circulatory system	69	75
Pneumonia—all forms	388	431
Hernia and intestinal obstructions	104	127
Diseases of pregnancy and the puerperal state	70	99
Diseases of the skin, cellular tissue, bones and organs of locomotion	174	215
Accidents and other forms of violence	228	160
Deaths in hospitals as a percentage of total admissions	4·01	3·46

18. Hospital attendances continued to increase and figures for both in- and out-patients treated in Government institutions were higher than in 1946. The tendency for more serious cases to be treated in hospital continues, and it is satisfactory that both the total deaths and the proportion of deaths to total admissions decreased compared with 1946.

I.—General Diseases

19. Epidemic, endemic and infectious diseases

The incidence in this group was 276,864 and there were 969 deaths in hospital. Malaria accounted for 105,751 cases and 261 deaths. There were 45,464 cases of syphilis and 30,111 of gonorrhoea.

20. General Diseases

39,538 cases were reported. Rheumatic conditions accounted for 35,332 of these.

21. Affections of the nervous system and sense organs

There was a total of 51,662 cases recorded in this group. Trachoma was responsible for 7,742 and "other diseases of the eye and annexa" for 21,912 cases.

22. Affections of the circulatory system

There were 7,098 cases in this group; 1,080 patients suffered from heart disease.

23. Affections of the respiratory system

100,317 cases were recorded. The pneumonias continue to show an increase, being 9,407 with 431 deaths as compared with 6,049 with 388 deaths last year. The cases mortality of those treated in hospital remained unchanged at approximately 7·6%.

24. Diseases of the digestive system

The incidence in this group was 80,714. Diarrhoea and enteritis accounted for 13,668 cases, and hernia and intestinal obstruction for 2,842.

25. Diseases of the genito-urinary system

There were 6,784 cases reported. Nephritis was responsible for 427 cases.

26. Diseases of pregnancy, childbirth and the puerperal state

4,938 cases were reported; of these, abortions accounted for 1,378. There were 44 cases of ectopic gestation and 45 cases of toxaemia of pregnancy.

27. Diseases of the skin, cellular tissue, bones and organs of locomotion

There were 120,671 cases in this group. "Tropical" ulcers, septic conditions of the skin and myalgia were responsible for the majority of the cases.

28. Affections produced by external causes

66,227 cases were reported in this group, and range from minor injuries to fatal accidents.

II.—Communicable Diseases

(*a*) INSECT-BORNE.

29. Malaria

105,751 cases of malaria with 261 deaths occurred during 1947, compared with 97,189 cases and 265 deaths in 1946. 8,725 cases were treated as in-patients. While this disease occurs throughout the year in most parts of the Protectorate, the measures adopted to safeguard the population of the larger townships is adequate to prevent the occurrence of other than sporadic cases. Control of the insect vector in rural areas has not been attempted and the incidence in these areas remains much as it has always been. The annual increase in the total number of cases is but a reflection of the general increase in the numbers attending for treatment.

The considerable variation in incidence between the various provinces is due in part to altitude, as in the case of the Western Province, and in part to the geographical concentration of swamps, rivers and lakes, as seen particularly in the Eastern Province. The distribution by Provinces for 1946 and 1947 has been as follows:—

Year	Buganda Province		Eastern Province		Western Province		Northern Province	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
1946 ..	27,722	59	37,355	112	13,739	37	18,373	57
1947 ..	26,533	78	41,987	90	16,240	46	20,991	47

30. Blackwater Fever

There has been a decrease in the number of cases of this disease compared with previous years, but the case mortality shows a slight increase. Out of a total of 78 cases, 76 were Asian, one European and one African. 22 cases were treated in Government hospitals, and 56 by private practitioners.

Among the European population, the synthetic anti-malarial drugs have almost completely replaced quinine as a prophylactic in recent years and it is probably more than a coincidence that the decline in incidence among Europeans commenced about this time.

The number of cases, deaths and case mortality during the period 1943 to 1947 has been as follows:—

Year	No. of cases	No. of deaths	Case mortality per cent.
1943	162	25	15·4
1944	187	40	20·9
1945	104	26	25·0
1946	95	14	14·0
1947	78	12	15·4

31. Trypanosomiasis

One hundred and seven cases of trypanosomiasis were recorded during 1947 as compared with 214 in 1946 and 317 in 1945. Most of the cases reported occurred in the northern area of the West Nile and Acholi districts, and in the eastern districts which have a common boundary with Kenya. Many of the cases discovered in the Tororo and Mbale areas occurred in Africans who had but recently arrived from the adjacent areas of Kenya.

Quarterly or half-yearly inspections of the population in areas where the disease is or has been endemic, were carried out regularly, and suspects were inspected monthly, while on the island of Buvuma which had been the scene of a small but sharp epidemic in 1942/1943, the whole population of approximately 2,500 was protected by injections of Antrypol administered quarterly. The danger zone on this island is its north and north-east coasts and arrangements are in being for the removal of the resident population from this region to the centre and south of the island, which are at present free of *G. pallidipes*.

The main focus in the Eastern Province appears to be in the region of Lumino which is south of Tororo near Berkeley Bay and within a very few miles of the Kenya border. Of the 34 cases recorded from this region, 27 came from the neighbourhood of Lumino, five from Samia Bugwe in the same county, and 2 from Kenya. In one inspection of 2,217 persons at Lumino, 20 positive cases were discovered.

Though the general number of cases recorded is diminishing, a close watch is still maintained in all affected areas and no control measures have been relaxed.

The following table shows the incidence of this disease with the number of deaths and the case mortality for the period 1942/1947:—

Year	No. Cases	Reported deaths	Case Mortality %
1942	2,190	209	9·55
1943	123	5	4·06
1944	367	37	10·08
1945	317	12	3·78
1946	214	10	4·67
1947	107	3	2·80

The distribution of cases for the last six years has been:—

District	1942	1943	1944	1945	1946	1947
West Nile	246	..	148	107	103	24
Acholi	..	..	..	103	12	15
Toro	106	..	..	..	..	33
Busoga (including Tororo & Mbale)	1,838	87	50	45	29	25
Mengo	..	36	50	1	15	6
Lango	..	..	..	28	7	4
Other districts	..	..	119	33	48	..
TOTAL	2,190	123	367	317	214	107

32. Relapsing Fever

The main focus of this disease is situated in the south and south-west of the Protectorate in the districts of Masaka, Ankole, Kigezi and Fort Portal, of which the first two are chiefly involved. The main labour routes from Tanganyika Territory and Ruanda–Urundi traverse Masaka and Ankole Districts, and the spread of the disease along these routes is attributed to immigrants bringing in the insect vector in their baggage. Immigrants making use of the staging Camp at Merama Hill are required to submit their belongings for anti-tick treatment, but unfortunately an appreciable proportion of immigrant labour by-passes this camp. A noteworthy feature of the incidence of the disease this year has been the remarkable fall in the number of reported cases, particularly in Ankole where the numbers decreased from 892 in 1946 to 343 in 1947. Sporadic cases occur in other parts of the territory.

Experiments with Gammexane applied to the floors of huts are being carried out and to date show signs of considerable promise.

The following table shows the number of cases of this disease treated at hospitals during the last five years:—

Station	1943	1944	1945	1946	1947
Mbarara	52	723	835	892	343
Masaka	183	236	281	381	167
Mulago	70	51	76	25	50
Fort Portal	14	31	33	21	27
Kabale	57	37	43	24	39
Others	39	74	89	27	28
TOTALS ..	1,125	1,152	1,357	1,370	664

33. Plague

The decline in the incidence of plague continued. Only one case was reported during the year.

34. Typhus Fever

Thirty-two cases of the non-epidemic form were diagnosed, of which two were Europeans and the remainder, Africans. Most of the cases were reported from Mengo District, in an area north-west of Kampala. It is probable that this disease is more widely spread than the present number of cases would indicate, as the diagnosis in every case was made on a laboratory report. The cases conformed, serologically, to the Murine (flea-borne) type.

(*b*) INFECTIOUS DISEASES.

35. Small-pox

The number of cases recorded during the year was 389 as compared with 581 in 1946 and 1,558 in 1945. There were 5 deaths.

The following table shows the number of vaccinations against small-pox reported annually for the last five years:—

1943 ...	1,235,284
1944 ...	2,295,929
1945 ...	2,122,612
1946 ...	964,254
1947 ...	710,797

36. Cerebro-spinal Meningitis

Sporadic cases occurred throughout the Protectorate but in Teso and West Nile Districts, the epidemic which broke out in 1946 continued, though on a smaller scale. The case mortality was abnormally high.

The number of cases, deaths and the case mortality for the past five years have been as follows:—

Year.	*Cases.*	*Deaths.*	*Case mortality.*
1943	1,191	227	19·06
1944	1,850	217	11·73
1945	2,842	350	12·32
1946	6,348	684	10·77
1947	2,630	505	19·12

37. Acute Poliomyelitis

Sporadic African cases of this disease occur throughout the Protectorate, but they are seldom seen during the actute phase.

38. Tuberculosis

842 cases of pulmonary disease and 149 of other forms of tuberculosis attended Government institutions. Admissions to hospital for this disease amounted to 404 cases of pulmonary tuberculosis, 119 of whom died, and 88 cases of other forms of tubercular disease, 9 of whom died.

It is regrettable that many of the pulmonary cases of tuberculosis are in an advanced stage when first seen and that few Africans are willing to remain in hospital under treatment for a prolonged period. The immigrant and itinerant labour from Ruanda–Urundi provide a large proportion of the cases reported.

39. Typhoid Fever

236 cases, eleven of which were due to para-typhoid bacilli, were treated by Government medical officers. There were 44 deaths in hospital. Seventeen cases, 3 Asian and 14 African were reported in Kampala Township and 96 African cases from its immediate environs where sporadic cases have been occurring for many years. The protection of shallow wells and springs has assisted in reducing the incidence of this disease in rural areas but these measures cannot be relied upon in peri-urban areas where the density of population is increasing and surface water supplies are constantly exposed to contamination.

40. Venereal Diseases

The number of cases of these diseases reporting for treatment has been steadily increasing in recent years. This is, in part, due to the improved prospects of early relief of symptoms afforded by modern drugs and in part to a general increase in the incidence.

During the year under review, 30,111 cases of gonorrhoea attended for treatment compared with 20,098 in 1946.

The number of cases of syphilis recorded annually is also increasing; since 1943, when attendances fell to a low level, cases have almost doubled.

During the last five years, the incidence of syphilis and gonorrhoea has been as follows:—

	Syphilis.	*Gonorrhoea.*
1943	23,599	11,415
1944	24,021	10,526
1945	31,549	14,936
1946	39,444	20,098
1947	45,464	30,111

41. Yaws

37,803 cases of yaws were reported in 1947 compared with 35,185 the previous year. Large foci of this disease exist in Lango and Teso Districts and the Sesse Islands. Plans are in being for campaigns against the disease in certain areas as soon as staff and supplies of drugs become available.

42. Leprosy

At Government hospitals and dispensaries, 689 cases of this disease attended for treatment compared with 886 in 1946 and 455 in 1945.

The Inter-territorial Leprologist, Dr. J. Ross Innes, arrived in the Protectorate in November. Before the end of the year, reports on two settlements and of a survey of children of school age in Mengo and Masaka districts, were received.

An order has been placed for 200,000 tablets of sulphetrone.

REPORTS ON MISSION SETTLEMENTS

Namagera Settlement, Busoga.—A doctor employed by the Mission visited the settlement regularly from April till October and, during the same period, there was a B.E.L.R.A. worker in residence. The permanent staff of the settlement consists of a Reverend Mother and five Sisters of the Order of St. Francis, two of whom are trained nurses. Twenty-two patients assist in the work of the hospital and dispensary together with two ex-Army nursing orderlies.

The area of the settlement has been extended to 2,000 acres. Clearing and planting has gone on during the year and the usual cultivation of cotton and food crops has been continued. Each patient is required to undertake work in keeping with his physical condition and to contribute labour towards the maintenance of the settlement and the cultivation of communal gardens.

Over a period of several months severe overcrowding occurred through the misguided enthusiasm of a member of the staff, and it was necessary to advise many non-infective cases to return to their homes pending the erection of additional accommodation.

Treatment consisted of regular injections of hydnocarpus oil with encouraging results in some cases.

The following is a summary of the statistics of the settlement:—

Number resident at the end of 1946 ...	355
Number adimtted during 1947	437
Number of births during 1947	9
Number of deaths during 1947	16
Number discharged	93
Number transferred	10
Number paroled	158
Number left at own request	227
Number remaining at the end of 1947 ...	288

Separate accommodation is maintained for the healthy children of infected parents residing in the settlement.

Nyenga Leprosy Settlement, Mengo.—This settlement is also under the management of the Franciscan Sisters. Only neural or non-infectious cases are accepted for treatment.

The general atmosphere of this settlement is excellent and the morale of the patients is good. Instruction in personal cleanliness is followed by observance in practice among the patients. Sanitation is adequate, housing is satisfactory, as is the state of the patients, all of whom work according to their capacity.

The scope of the settlement is limited through lack of land.

Regular and intensive treatment is administered in the form of intradermal and subcutaneous injections of hydnocarpus oil. A small supply of Promin has been obtained and is on trial in selected cases.

The following is a summary of the statistics of the settlement:—

Number remaining at the end of 1946 ...	211
Number admitted during 1947	86
Number of births	1
Number of deaths	8
Number discharged	100
Number remaining at the end of 1947 ...	190

Kumi Leprosy Settlement.—This settlement continues to cater for juvenile cases of leprosy up to the age of 16 years, after which they are transferred to the adult settlement at Ongino.

The following is a summary of the statistics of the settlement:—

Number of children remaining at the end of 1946 ...	369
Number of children admitted during 1947 ...	91
Number of children discharged during 1947 ...	54
Number of children transferred to Ongino ...	25
Number of children died	6
Number of children remaining at the end of 1947 ...	375

The recovery rate at Kumi has been well maintained throughout the year, 54 children being discharged and all without deformity. These children had been admitted as early cases, due largely to visits paid by the Superintendent to local villages and to the co-operation of the chiefs. The improvement in lepromatous cases has been marked and much improvement has also been noted in cases of other types.

One girl, discharged symptom-free two years ago, applied for permission to return and train for leprosy work. She is making steady and excellent progress. Others have since come forward and their help and example have had a good effect on the morale of the settlement.

There has been great progress in all branches of school work and the excellence of the exhibits at an exhibition of handiwork held in August gave ample evidence that the teaching had been well done. Vigorous work has been carried out with the Scouts, Cubs, Guides and Brownies and these organisations contribute in no small measure to the good spirit and happiness which prevails throughout the settlement.

Ongino Leprosy Settlement.—As stated previously this settlement provides for the care of adult patients. The following is a summary of the statistics of the settlement:—

Number of patients remaining at the end of 1946 ...	496
Number of patients admitted during 1947	102
Number of patients discharged during 1947 ...	59
Number of patients died during 1947	9
Number of patients remaining at the end of 1947 ...	530

Many of the patients at Ongino are showing great improvement, especially the lepromatous cases. Fifty-nine patients were discharged to their homes. The mental outlook of many is changing and their regard for their personal appearance and cleanliness has become very noticeable. Many of the adults took part in the handiwork exhibition mentioned in connection with Kumi and several were awarded prizes.

A market was instituted in the settlement this year and has been a geat success. Only patients are permitted to trade in this market in which transactions are allowed in cash or kind. It has given the patients great pleasure and has been the means of preventing visits to markets in neighbouring villages.

Difficulty was experienced during the latter half of the year with water supplies. At first, porters were employed to carry water to the Administrative Block for distribution to helpless patients, but later, when the shortage became acute, a water cart was brought into use. It is expected that this difficulty will be overcome next year.

Community work continues to be well done in the settlement and the voluntary "turn out" of able-bodied patients one morning a week is very gratifying. A reading room was opened during the year. Books and papers in as many of the vernacular languages as possible are obtained, and the reading room is very popular and well patronised.

Bunyoni Leper Colony.—This is the third of the settlements under the management of the Church Missionary Society.

The following is a summary of the statistics of the settlement:—

Number remaining at the end of 1946 ...	650
Number admitted during 1947	136
Number discharged during 1947 ...	65
Number of deaths during 1947	13
Number remaining at the end of 1947 ...	708

The general health of the patients has been remarkably good throughout the year, there having been little malaria and no epidemics. Great industry has been shown in the cultivation of crops and good harvests have been obtained. Apart from agriculture there are many other useful interests and occupations open to those with an aptitude and desire for employment, and afforestation, building, carpentry, fishing, pottery, mat and basket making, all have their devotees.

Building operations during the year were concentrated on the hospital which is being rebuilt in burnt brick with tiled roof. The main block has 10 wards with sisters' offices and stores, while the second block comprises operation theatre, pathological laboratory and consulting room. A third block accommodates the out-patient department, with treatment and dressing rooms as well as a dispensary. These buildings are nearing completion and will be put into operation next year.

(*c*) HELMINTHIC DISEASES.

43. Intestinal parasites, or their ova, of one species or another, are found in the majority of stools examined, but the number of cases of infection with intestinal parasites recorded in the returns includes only those patients whose symptoms are diagnosed as due to such parasites.

44. Ankylostomiasis

5,609 cases were recorded compared with 5,546 in 1946. Although the infection appears to be widespread, medical officers report that as a rule the disability caused is not severe.

45. Schistosomiasis

Both vesical and rectal infections occur in certain parts of the Protectorate. School medical inspections have brought to light new foci of infection. 1,072 cases were reported during the year compared with 858 in 1946.

B.—VITAL STATISTICS

46. The vital statistics for the Protectorate are given in Tables A and B. The last census was taken in 1931 and the population has been estimated from the census figures by the addition of births and the subtraction of deaths in each subsequent year. The population of Karamoja District has been excluded from the total population and from all calculation of rates because vital statistics are not submitted from that district. Population changes arising from immigration and emigration are not taken into consideration in calculating the rates.

47. Birth Rate and Death Rate

Live births exceeded deaths by 49,866. All districts showed an excess of live births to deaths.

48. Still-birth Rate

The number of still-births recorded was 3,260 compared with 3,465 in 1946. The percentage of still-births to the total of live births and still-births ranges from 0·16 in Teso to 6·77 in Bunyoro, an area in which the rate is consistently high. The rate for the Protectorate was 2·63.

49. Infant Mortality Rate

The rate for the Protectorate, 99·03 per thousand live births, continues to fall. It still remains high in the West Nile (213·98), in Acholi (152·55) and Busoga (145·35). In Kigezi the rate has fallen to a new low level (25·05) which is so low that the accuracy of the returns is in doubt.

50. Maternal Mortality Rate

This rate fell from 6·00 to 5·26.

TABLE .—RETURN SHOWING BIRTH, DEATH, STILL-BIRTH AND INFANTILE MORTALITY RATES FOR THE UGANDA PROTECTORATE FOR THE LAST SEVEN YEARS

PROVINCES AND DISTRICTS	BIRTH RATE PER 1,000 POPULATION							
	1940	1941	1942	1943	1944	1945	1946	1947
BUGANDA:—								
Mengo ..	20·28	21·98	31·32	33·25	32·92	34·09	23·87	26·024
Masaka ..	33·44	33·87	26·57	31·49	30·86	37·62	36·38	33·374
Mubende ..	12·10	11·24	11·29	11·29	12·65	11·04	12·44	11·651
TOTAL ..	21·71	22·75	26·76	29·04	28·94	30·91	24·66	25·254
EASTERN:—								
Busoga ..	21·48	21·76	19·52	18·13	16·04	22·49	26·31	29·078
Mbale ..	29·10	27·90	24·59	22·78	18·85	21·96	22·76	24·253
Teso ..	24·87	23·88	22·97	22·04	19·03	19·35	25·40	23·055
TOTAL ..	25·68	25·03	22·66	21·16	18·02	21·52	23·24	25·4559
WESTERN:—								
Toro ..	30·18	26·97	27·28	29·37	26·23	28·43	27·82	21·333
Ankole ..	33·10	29·07	26·51	28·69	25·57	34·88	32·69	34·500
Kigezi ..	45·41	41·95	40·69	45·29	34·05	48·29	53·84	46·742
Bunyoro ..	15·46	15·49	15·57	14·50	13·18	14·81	14·00	13·338
TOTAL ..	28·78	30·85	29·76	32·37	26·89	35·31	35·78	33·1749
NORTHERN:—								
Lango ..	29·59	29·23	35·42	34·02	34·14	37·07	36·81	38·103
Acholi ..	41·77	37·02	39·58	38·25	31.24	31·34	34·76	39·171
West Nile	36·50	44·00	44·34	35·09	33·31	41·39	41·91	40·616
TOTAL ..	35·74	37·05	39·99	35·65	32·99	37·49	37·06	39·356
UGANDA PROTECTORATE ..	28·65	28·23	28·78	28·63	25·78	30·26	29·55	30·170

PROVINCES AND DISTRICTS	DEATH RATE PER 1,000 POPULATION							
	1940	1941	1942	1943	1944	1945	1946	1947
BUGANDA:—								
Mengo ..	19·03	20·38	33·44	26·27	27·64	28·81	23·07	24·447
Masaka ..	21·23	17·40	25·37	18·42	22·55	21·26	16·71	17·973
Mubende	11·03	9·51	10·06	7·35	10·15	8·66	7·87	8·029
TOTAL ..	18·09	17·82	27·56	21·22	23·47	23·63	19·06	20·118
EASTERN:—								
Busoga ..	20·43	21·46	27·08	23·33	20·56	21·33	25·80	27·487
Mbale ..	19·29	19·53	18·86	17·92	16·91	19·96	19·26	14·804
Teso ..	16·78	16·66	18·8	16·86	16·88	18·88	22·90	14·812
TOTAL ..	19·06	19·48	21·43	19·35	18·03	20·13	21·31	18·702
WESTERN:—								
Toro ..	18·24	18·44	18·17	16·25	14·13	14·36	15·21	10·981
Ankole ..	19·36	24·70	29·36	19·71	18·80	21·24	15·95	17·047
Kigezi ..	16·79	18·51	15·63	16·86	20·12	14·70	17·49	10·877
Bunyoro ..	9·22	11·16	11·77	11·56	9·58	10·78	10·92	9·337
TOTAL ..	17·15	19·60	20·22	16·98	16·98	16·36	16·71	12·691
NORTHERN:—								
Lango ..	13·26	12·84	17·13	20·97	19·80	22·07	24·43	14·227
Acholi ..	19·48	18·82	21·50	23·79	19·44	19·25	20·30	18·752
West Nile	20·63	21·01	24·38	26·23	18·11	18·66	30·80	24·351
TOTAL ..	17·83	17·51	21·12	23·76	19·06	20·05	24·39	19·341
UGANDA PROTECTORATE ..	18·12	18·75	22·54	20·10	19·28	19·99	20·26	17·664

PROVINCES AND DISTRICTS	STILL-BIRTH RATE PER 1,000 BIRTHS AND STILL-BIRTHS							
	1940	1941	1942	1943	1944	1945	1946	1947
BUGANDA:—								
Mengo ..	2·26	1·85	1·39	1·03	·76	·75	·86	0·683
Masaka ..	1·59	1·60	1·47	1·10	·59	·52	·46	0·955
Mubende ..	3·14	2·52	2·98	2·86	3·81	3·39	2·8	2·692
TOTAL ..	2·12	1·82	1·53	1·18	·96	·86	·89	0·9297
EASTERN:—								
Busoga ..	5·58	5·99	5·82	4·65	3·99	4·90	5·05	4·664
Mbale ..	2·62	2·80	3·00	2·83	2·26	2·23	2·04	2·073
Teso ..	0·85	0·73	0·77	0·63	0·20	0·34	·50	0·164
TOTAL ..	3·04	3·26	3·27	2·80	2·25	2·73	2·63	2·608
WESTERN:—								
Toro ..	3·66	4·35	4·18	4·50	4·59	3·85	3·41	3·267
Ankole ..	3·46	4·00	4·33	3·53	3·32	3·02	3·35	2·801
Kigezi ..	3·08	4·35	4·89	4·76	4·69	4·26	3·98	3·786
Bunyoro ..	10·75	6·64	6·58	7·01	8·01	6·73	7·12	6·771
TOTAL ..	3·97	4·59	4·92	4·70	4·68	4·09	3·86	3·536
NORTHERN:—								
Lango ..	2·80	4·81	5·08	4·91	5·49	5·21	5·48	4·094
Acholi ..	5·05	4·92	4·92	4·76	4·84	3·98	3·75	3·971
West Nile	2·90	2·85	2·39	1·95	2·45	1·81	1·68	1·2472
TOTAL ..	3·75	4·14	4·08	3·94	4·01	3·62	3·48	2·972
UGANDA PROTECTORATE ..	3·23	3·47	3·43	3·13	2·90	2·82	2·88	70 2·638

PROVINCES AND DISTRICTS	INFANTILE MORTALITY RATE PER 1,000 BIRTHS							
	1940	1941	1942	1943	1944	1945	1946	1947
BUGANDA:—								
Mengo ..	97·55	86·63	99·10	65·65	85·92	71·23	73·48	79·041
Masaka ..	84·11	66·16	24·32	59·42	95·18	57·28	57·28	64·938
Mubende ..	90·48	66·82	59·22	50·33	59·40	68·51	37·00	54·816
TOTAL ..	91·86	78·16	101·73	63·12	70·24	67·21	64·86	72·793
EASTERN:—								
Busoga ..	254·84	215·40	279·07	200·05	182·94	136·51	141·49	145·354
Mbale ..	161·72	137·27	130·96	123·96	122·68	130·37	125·93	99·710
Teso ..	82·00	69·45	76·26	61·54	66·51	77·12	72·81	48·317
TOTAL ..	168·65	143·78	157·99	129·24	125·46	121·20	119·43	104·863
WESTERN:—								
Toro ..	137·19	118·33	95·79	97·51	77·05	64·21	75·68	60·335
Ankole ..	116·39	141·65	135·03	87·20	91·25	94·24	102·27	68·188
Kigezi ..	58·64	40·55	38·97	43·35	52·30	37·82	49·00	25·050
Bunyoro ..	87·34	66·67	84·65	54·35	54·45	59·05	56·88	70·131
TOTAL ..	93·06	82·29	81·94	67·77	69·95	61·75	68·95	46·622
NORTHERN:—								
Lango ..	109·60	122·52	143·00	158·13	150·76	20·28	170·00	122·896
Acholi ..	196·19	195·20	215·98	255·89	245·38	20·93	204·11	152·553
West Nile	200·83	185·61	186·61	264·14	171·40	183·31	271·82	213·981
TOTAL ..	173·88	171·77	195·54	227·79	184·52	199·56	221·05	166·781
UGANDA PROTECTORATE ..	134·42	123·99	136·91	120·79	116·36	109·59	119·60	99·033

PROVINCES AND DISTRICTS	MATERNAL MORTALITY RATE PER 1,000 BIRTHS AND STILL-BIRTHS							
	1940	1941	1942	1943	1944	1945	1946	1947
BUGANDA:—								
Mengo ..	7·14	5·86	7·77	7·88	7·78	7·69	8·34	7·385
Masaka ..	4·76	5·04	6·06	5·52	4·99	5·17	2·66	3·500
Mubende ..	4·05	1·64	3·91	3·78	5·71	1·64	4·00	1·553
TOTAL ..	6·03	5·23	7·09	7·03	6·96	6·61	6·04	5·737 x
EASTERN:—								
Busoga ..	13·18	12·27	16·43	13·47	8·64	6·98	11·07	10·395
Mbale ..	6·45	5·71	6·43	4·26	5·07	4·19	6·01	5·165
Teso ..	10·22	4·55	7·99	7·88	7·31	5·93	3·96	3·882
TOTAL ..	9·11	7·31	9·56	7·62	6·61	5·47	7·29	6·775
WESTERN:—								
Toro ..	12·88	9·83	9·65	8·35	9·23	5·80	8·39	8·014
Ankole ..	4·96	7·35	6·61	4·88	4·71	5·12	4·10	4·595
Kigezi ..	4·25	5·41	4·60	2·96	5·65	3·87	3·79	2·752
Bunyoro ..	4·93	3·09	8·67	3·26	5·30	4·24	6·67	4·086
TOTAL ..	6·22	6·74	6·52	4·64	6·13	2·95	4·79	4·175
NORTHERN:—								
Lango ..	5·14	5·74	8·00	6·37	7·61	7·71	6·07	6·271
Acholi ..	10·07	7·21	8·50	8·01	7·77	8·26	8·67	5·344
West Nile	13·89	11·57	6·43	3·31	2·73	3·42	4·83	2·462
TOTAL ..	10·16	8·10	7·50	5·77	5·58	6·06	6·11	4·549
UGANDA PROTECTORATE ..	7·98	7·15	7·69	6·19	6·31	5·65	6·00	5·260

TABLE B.—VITAL STATISTICS RETURN OF THE UGANDA PROTECTORATE FOR THE YEAR 1947. (AFRICAN POPULATION ONLY).

Provinces and Districts	Live Births			Still-births	Deaths						Estimated Population	Rates for the Year				
					Children under 1 year			Women in Child Birth	All Other Deaths	Total Deaths		Birth Rate per thousand of Population	Still-births to Births and Still-births	Infantile Mortality Rate per thousand Live Births	Maternal Mortality per thousand of Births and Still-births	Death Rate per thousand of Population
	Male	Female	Total		Male	Female	Total									
BUGANDA PROVINCE—													%			
Mengo	7,451	7,073	14,524	100	605	543	1,148	108	12,388	13,644	558,092	26·024	0·683	79·041	7·385	24·447
Masaka	3,731	3,522	7,253	70	229	242	471	26	3,409	3,906	217,324	33·374	0·955	64·938	3·550	17·973
Mubende ..	927	952	1,879	52	58	45	105	3	1,189	1,295	161,274	11·651	2·692	54·816	1·553	8·029
TOTAL ..	12,109	11,547	23,656	222	892	830	1,722	137	16,986	18,845	936,690	25·254	0·9297	72·793	5·737	20·118
EASTERN PROVINCE—																
Busoga	5,627	5,470	11,097	543	826	787	1,613	121	8,756	10,490	381,627	29·078	4·664	145·354	10·395	27·487
Mbale	6,981	6,859	13,840	293	720	660	1,380	73	6,995	8,448	570,638	24·253	2·073	99·710	5·165	14·804
Teso	3,391	3,294	6,685	11	176	147	323	26	3,946	4,295	289,958	23·055	0·164	48·317	3·882	14·812
TOTAL ..	15,999	15,623	31,622	847	1,722	1,594	3,316	220	19,697	23,233	1,242,223	25·4559	2·608	104·863	6·775	18·702
WESTERN PROVINCE—																
Toro	2,387	2,320	4,707	159	145	139	284	39	2,100	2,423	220,642	21·333	3·267	60·335	8·014	10·981
Ankole	5,593	5,406	10,999	317	399	351	750	52	4,633	5,435	318,810	34·500	2·801	68·188	4·595	17·047
Kigezi	8,481	7,247	15,758	619	223	171	394	45	3,221	3,660	336,479	46·742	3·786	25·050	2·752	10·877
Bunyoro	816	781	1,597	116	64	48	112	7	999	1,118	119,729	13·338	6·771	70·131	4·086	9·337
TOTAL ..	17,277	15,754	33,031	1,211	831	709	1,540	143	10,953	12,636	995,660	33·1749	3·536	46·622	4·175	12·691
NORTHERN PROVINCE—																
West Nile	6,397	6,034	12,431	157	1,361	1,299	2,660	31	4,762	7,453	306,062	40·616	1·2472	213·981	2·462	24·351
Lango	5,367	5,032	10,399	444	713	565	1,278	68	2,537	3,883	272,918	38·103	4·094	122·896	6·271	14·227
Acholi	4,646	4,518	9,164	379	707	691	1,398	51	2,938	4,387	233,946	39·171	3·971	152·553	5·344	18·752
TOTAL ..	16,410	15,584	31,994	980	2,781	2,555	5,336	150	10,237	15,723	812,926	39.356	2·972	166·781	4·549	19·341
UGANDA PROTECTORATE ..	61,795	58,508	120,303	3,260	6,226	5,688	11,914	650	57,873	70,437	3,987,499	30·170	2·638	99·033	5·260	17·664

EUROPEAN OFFICIALS.

51. Only those officials whose names appear in the Protectorate staff List are shown in Table C. Wives and families are not included.

TABLE C.

52. Table showing the sick, invaliding and death rates of European officials during the last three years:—

Particulars	1945	1946	1947
Total number of officials resident	512	656	736
Average number resident	447	597	672
Total number on Sick List	654	766	485
Total number of days on Sick List	2,088	3,115	2,362
Average daily number on Sick List	5·72	8·53	6·47
Percentage of daily sick to average number resident	1·27	1·43	0·96
Average number of days on Sick List each patient	3·19	4·06	4·87
Average sick time each resident	4·67	5·22	3·51
Total number invalided	8	6	3
Percentage of invalidings to total residents	1·56	0·92	0·40
Total deaths	2	2	3
Percentage of deaths to average number resident	0·44	0·33	0·44
Percentage of deaths to total residents	0·39	0·30	0·40
Number granted local sick leave	27	35	30
Average number of days sick leave for each patient granted local sick leave	18·25	16·80	12·40

The principal causes of sickness were:—

Malaria, 118; Influenza, 25; Tonsillitis, 22; Amoebiasis, 16; Injuries, 13; Appendicitis, 11; Diseases of the circulatory system, 5.

53. Three deaths were recorded, the causes being:—

Myocardial degeneration	2	General carcinomatosis	1

54. The number of Medical Boards held on European officials in each of the last five years is as follows:—

1943	*1944*	*1945*	*1946*	*1947*
17	20	31	12	8

55. The eight Medical Boards held on European officials were for the following conditions:—

	No. of Cases	Result of Board
Hyperpiesis	1	To proceed on home leave.
Carcinoma	1	To remain under treatment locally.
Neurosis	2	To proceed on home leave.
Osteo-arthritis	1	To proceed on home leave for treatment.
Peptic ulcer	1	To continue under treatment locally; fit to continue to serve.
Fitness for further service	2	Fit.

EUROPEAN NON-OFFICIALS.

56. European non-officials treated by Government medical officers totalled 2,043 of whom 775 were admitted to hospital. In 1946 the figures were, respectively, 2,293 and 828.

57. Twenty-seven deaths were recorded among non-official Europeans, the causes of which were:—

Pulmonary tuberculosis, 2; Gas gangrene, 1; Cancer of stomach, 2; Cancer of liver, 1; Cancer (undefined), 1; Cerebral hæmorrhage, 3; Myocardial degeneration, 4; Retro-peritoneal hæmorrhage, 1; Pneumonia, 1; Cirrhosis of the liver, 1; Nephritis, 1; Osteo-myelitis, 1; Atelectasis neonatorum, 1; Motor vehicle accident, 3; Lightning, 2; Post-operative shock, 1; Post-operative embolus, 1.

ASIAN OFFICIALS.

58. Table D, showing the sick, invaliding and death rates among Asian officials, is based on the numbers of permanent staff shown in the Protectorate Estimates of Revenue and Expenditure, since no Asian staff list has been published subsequent to 1939. Officials of the Kenya and Uganda Railways and Harbours, artizans employed by the Public Works Department on temporary agreement and the wives and families of all officials are omitted.

59. Table showing the sick, invaliding and death rates of Asian Officials during the last three years:—

TABLE D.

	1945	1946	1947
Total number of officials resident	440	459	483
Average number resident	396	414	467
Total number on sick list	1,105	1,221	507
Total number of days on sick list	5,962	5,863	2,354
Average daily number on sick list	16·33	16·06	6·44
Percentage of daily sick to average number resident ..	4·12	3·87	1·37
Average number of days on sick list for each patient ..	5·39	4·80	4·64
Average sick time each resident	15·06	14·16	5·04
Total number invalided	3	1	3
Percentage of invalidings to total residents	0·68	0·21	0·62
Total deaths	2	2	2
Percentage of deaths to total residents	0·45	0·43	0·41
Percentage of deaths to average number resident	0·5	0·48	0·43
Number granted local sick leave	22	25	4
Average number of days on sick leave for each patient granted sick leave	20·18	16·72	19·25

60. The principal causes of sickness were:—

Malaria, 126; Influenza, 27; Asthma, 22; Tonsillitis, 15; Bronchitis, 13; Injuries, 8; Dysentery, 6.

61. Two deaths were recorded, the causes of which were:—

Diabetes ...	1
Duodenal ulcer ...	1

62. The number of Medical Boards held on Asian officials in each of the last five years is as follows:—

1943	*1944*	*1945*	*1946*	*1947*
7 ...	16 ...	6 ...	8 ...	8

The eight Medical Boards were held for the following conditions:—

	No. of Cases	Result of Board
Neurosis	6	3 To proceed on leave to India. 1 To be invalided out of the service. 1 To be discharged from the service. 1 Fit for duty.
Polyuria	1	Unfit for further service.
Fitness for further service ..	1	Fit.

ASIAN NON-OFFICIALS.

63. 11,544 cases of sickness among the non-official community were treated by the Government medical staff. The principal causes of sickness were:—

Malaria; Influenza; Diseases of the Respiratory System and Diseases of the Digestive System.

64. 194 deaths were reported to this Department; summarized, they can be grouped under approximately 70 different causes, several of which are not recorded in the Manual of the International List of Causes of Death. The following are the principal causes as recorded:—

Heart failure	29	Prematurity	5
Malaria	27	Broncho-pneumonia	4
Pneumonia	22	Pulmonary tuberculosis	3
Blackwater fever	10	Coronary thrombosis	3
"Fever"	6	Cerebral haemorrhage	3

AFRICAN OFFICIALS.

65. Accurate statistics in respect of African officials are not available. The total in the service has been obtained from the Protectorate Estimates of Revenue and Expenditure since a Staff List for this class of officer has not yet been published. In consequence of the re-organisation of the Local Civil Service in 1946, certain posts were transferred to the Employees' division, and the total number of officers has fallen from 1,582 in 1946 to 1,499 in 1947.

66. Table showing the sick, invaliding and death rate of African civil servants, excluding wives and families:—

TABLE E.

	1945	1946	1944
Total number of officials resident	1,391	1,582	1,499
Average number of officials resident	1,391	1,582	1,499
Total number on sick list	49	85	150
Total number of days on sick list	179	251	657
Average daily number on sick list	0·49	0·68	1·80
Percentage of daily sick to average number resident	0·03	0·04	0·12
Average number of days on sick list for each patient	3·65	2·95	4·38
Average sick time each resident	0·13	0·16	0·43
Total number invalided	..	..	..
Percentage of invalidings to total residents	..	..	..
Total deaths	..	2	..
Percentage of deaths to total residents	..	0·12	..
Percentage of deaths to average number resident	..	..	..
Number granted local sick leave	1	4	1
Average number of days sick leave each patient granted sick leave	31	40·50	14

SECTION III.—HYGIENE AND SANITATION

A.—General Review of Work Done and Progress Made

I.—PREVENTIVE MEASURES

(*a*) INSECT-BORNE DISEASES.

67. Malaria

The filling of small depressions and the treatment of standing water by oiling or stocking with larvivorous fish have been the principal methods in force for dealing with proved or potential mosquito-breeding places.

A mosquito survey was carried out in the Kigezi Resettlement area by the medical entomologist who also re-surveyed Lira, Masindi, Gulu, Masaka, Bombo and Mbale.

With the co-operation of the Forestry Department existing plantations of eucalyptus and cassia have been maintained. Clear felling of mature trees in the Mbale plantations was followed by anopheline breeding until coppice growth was well established and this policy has been abandoned in favour of selective felling.

In the vicinity of Namasagali 58 acres of eucalyptus trees were planted, but five acres were destroyed by flooding.

Several thousand yards of earth drains were cut in and around townships; 800 yards of permanent anti-malarial drains were laid in Soroti.

At Mbale, where the incidence of malaria among the European population has always been high, spraying of their residences and servants' quarters and of the adjacent huts occupied by African staff of the Police and Prisons Departments, with D.D.T. in solution, produced very satisfactory results.

An experiment was carried out by the Senior Medical Officer (Health) at Luzira Prison to ascertain the insecticidal effect of water soluble (distemper) paint containing 5% D.D.T. when applied to the interior surface of living quarters. Over a period of three months no diminution in the number of live mosquitoes caught daily in the treated quarters, compared with controls, was reported.

Despite an annual rainfall considerably in excess of the average and a steadily expanding population there was a further decline in the incidence of malaria among Europeans and Asians residing in Kampala Township. The decline is attributed to an improved mosquito control organization, closer supervision of subordinate staff, selective anti-malarial measures depending on the local problem and extension of the use of anti-larval fish, mainly *Lebistes*. Economy in the use of anti-malarial mixture has been effected and, within the township area, it has been superseded by 1% D.D.T. dispersible powder in aqueous suspension.

The principal achievement in Kampala was the reclamation of the Nsoba swamp from its source at the north-west tip of Kampala to its confluence with the Lubigi to the north of township. The work included canalisation, subsidiary lateral sub-soil drainage, the protection of a number of springs used as a source of water by local residents, and the introduction of *Lebistes* fish into water channels and flooded borrow pits.

68. Trypanosomiasis

The formation of the Department of Tsetse Control which involved the transfer of the personnel of the Tsetse Field Unit of the Entomological Division, has not completely relieved this Department of all responsibility in connection with the insect vectors of human trypanosomiasis.

The medical entomologist carried out a tsetse fly survey in the Western Province in order to investigate the possibility of establishing fishing settlements in Restricted areas.

In areas where sleeping sickness is, or has been, endemic regular inspections of the population have been carried out by district medical officers. A number of relapse and new cases have been detected during the course of these routine examinations.

Rod clearings have been maintained in the West Nile with very satisfactory results, only 24 cases of sleeping sickness being reported compared with 103 in 1946.

69. Yellow Fever

No cases were reported.

The work of the Yellow Fever Research Institute was continued. Extensive entomological studies were undertaken in forest areas and a considerable amount of information has been collected concerning the species and habits of jungle mosquitoes. The activities of the staff of the Institute cover a very wide field and are fully recorded in annual reports submitted direct to the headquarters of the Rockefeller Foundation.

The voluntary withdrawal of the International Health Division of the Rockefeller Foundation from control of the Institute at Entebbe has been carried a step further. Four members of the European staff are now paid from research funds provided under the Colonial Development and Welfare Act, and from the same source a grant has been made, in respect of 1947, to meet 50% of the running costs of the Institute, the Foundation accepting responsibility for the balance. The intention is that in due course the scope of the Institute will be extended to embrace research into virus problems in general.

70. Relapsing Fever

The disinfestation of clothing and personal belongings of all Banyaruanda–Barundi immigrants entering the Protectorate *via* Kakitumba has been carried out at Merama Hill Camp throughout the year. The process employed—hot air and gas from charcoal braziers—has been most effective in killing ticks and other insect vermin.

The discovery that gammexane is an efficient agent against *O. moubata* in native huts offers hope that something can be done to check the spread of relapsing fever short of destroying the infested huts by fire. During the year experiments carried out at Mbarara prove that gammexane is of considerable value in ridding huts of infestation. Discussions have taken place with representatives of the manufacturers and it is hoped that packets of gammexane, containing sufficient to treat a hut of average size, may soon be on sale at a price within the means of Africans requiring it for this purpose.

71. Typhus

In Kigezi District where a sharp epidemic occurred several years ago de-lousing of garments of skin and other materials is done once a week, by Carnie's disinfestor, in nearly every village. With few exceptions, the process is carried out efficiently under the minimum of supervision. No cases of louse-borne typhus were reported from Kigezi District during the year.

(*b*) EPIDEMIC DISEASES.

72. Cerebro-Spinal Meningitis

Cases were reported from every district in the Protectorate. Contacts were segregated and the patients, isolated. On the occurrence of an outbreak, the opportunity was taken to emphasize the need for better huts with adequate permanent ventilation.

73. Small-pox

The practice of isolating cases in a hut built for the purpose and vaccinating contacts was continued.

(*c*) HELMINTHIC DISEASES.

74. Infections with *Ascaris* and *Ancylostoma* occur widely though generally without producing definite clinical symptoms. It is, however,

reported that, among children in the Bukedi area of Mbale District, the anæmia associated with hookworm infestation is often severe, red cell counts of one million being not uncommon; oedema is often present in these cases. Progress in rural hygiene which will tend to reduce the incidence of these diseases is becoming apparent.

75. Schistosomiasis

This disease is widely but thinly distributed. The majority of cases are reported from the West Nile where it has been estimated that more than 5% of the total population are infected. The inhabitants of this part of the Protectorate are still primitive and the response to propaganda on the measures to be taken to prevent infection has been poor.

II.—GENERAL MEASURES OF SANITATION

76. No township in Uganda, save Kampala, has a system of sewers and, in this particular instance, the system has failed to keep pace with the expansion of the township. In other centres of population where there is a piped water supply, the number of domestic septic tank installations is increasing, the rate being dependent, to some extent on the availability of materials. In general, the majority of premises in townships other than Kampala rely upon a bucket system of night soil disposal. Constant vigilance on the part of departmental officers is necessary to prevent the occurrence of nuisances arising from this system.

The use of pit latrines by Africans is extending. It is reported that in Gulu District where latrines were practically non-existent three years ago, an increasing number of houses now have one, and the district medical officer, Masindi, reports that almost all centres of population in his area now have protected water supplies and deep pit latrines. The latrine campaign initiated in Mbale District in 1946 has been continued with marked success in certain areas, the number of latrines constructed during the year amounting to nearly 10,000.

In Lango District, concentration of the activities of an assistant health inspector on a number of villages has resulted in considerable improvements being effected. A rat hunt was organised during which 1,669 rats were killed; more than 900 houses for goats were erected to accommodate animals which previously shared their owners' huts; some 600 abandoned latrines were renovated and brought into use and more than 500 new latrines were constructed.

The provision of permanent supplies of uncontaminated water within easy reach of the rural population is a major problem which is difficult to solve at a reasonable cost in a country with a widely dispersed population. This department has done valuable work in providing protected springs and encouraging their construction, but in certain areas the supplies thus provided are not always permanent, and in backward areas there is frequently lack of co-operation in maintaining the springs. In Mbale District, 46 new springs were protected during the year, raising the total for the district to more than 700.

The Geological Department continued their programme of sinking bore-holes.

In Masaka township the construction of a pumping station for a new water supply was commenced. To improve storage facilities at the hospital, two new tanks have been installed.

III.—SCHOOL HYGIENE

77. In most districts frequent visits to schools were made by medical officers or their assistants. Defects in sanitation were reported to the school authorities with a view to having them rectified. The standard of construction is steadily improving and in many instances permanent buildings have replaced classrooms and latrines erected originally in temporary materials; but there is still room for further improvement particularly in Gulu and Lango Districts.

A simple lunch is provided for children attending certain schools in the West Nile District, a practice which should be encouraged and extended.

IV.—LABOUR CONDITIONS

78. Labour camps, ginneries, factories, and estates employing large labour forces were inspected regularly during the year by medical and health staff.

Improvements are reported in the housing and general conditions of labour, and several large housing schemes have been completed during the year or are in course of construction. The issue of a cooked meal to employees before they commence work has been introduced by a small number of employers.

V.—HOUSING AND TOWN PLANNING

79. As previously mentioned elsewhere in this report the housing shortage in several townships is an acute problem. In Mbale a survey disclosed that there were 68 Asian families each occupying only one room and 125 Asian families each occuping two rooms. Serious overcrowding was occuring in most instances. Shortage of skilled labour in the building trade, and to some extent of materials, are factors retarding the rapid solution of the housing problem.

The Central Town Planning Board considered and approved proposals for the lay-out of several townships. The task of preparing a comprehensive town planning scheme for the future development of Jinja has been entrusted to a private town planner. A report on this scheme is awaited.

VI.—FOOD IN RELATION TO HEALTH AND DISEASES

80. The yield of foodstuffs was up to the average in all districts. In certain areas, the practice of storing a reserve supply of grain and other commodities at chiefs' headquarters, was continued as a precaution against famine.

Nine cases of scurvy, two cases of beri-beri, 302 cases of pellagra and 2,105 cases of "other nutritional diseases" were reported. These figures do not disclose the extent to which malnutrition exists. The Senior Medical Specialist is of opinion that malnutrition is still the dominant condition in the African population, both in its acute phases in childhood and in its later phases in adult life.

Research has continued at Mulago Hospital into the pathology of nutrition and on the therapy of the nutritional macrocytic anæmias.

In the early part of the year an inspection of the Luzira Prison diet registers, in respect of foodstuffs issued during the preceeding year, revealed shortages of fruit and vegetables intended to supply vitamins A and C. These findings were in accord with the relatively high recorded incidence of xerophthalmia occurring seasonally among prisoners. Appropriate recommendations were made and instructions given, by the medical officer in charge, to extend the cultivation of spinach and paprika; recommendations were further made for the introduction into the dietary of ghee substitute containing vitamin A during the dry weather months when issues of fresh vegetables cannot be given in full.

Meat inspection is not general outside townships and the vicinity of townships. A successful prosecution was taken against a trader for selling meat from a carcass which he knew to be infected with anthrax. The consumption of meat and fish in the districts where supplies are available is increasing. In Kampala the number of animals slaughtered in the township abattoir has risen steeply in recent years, from 5,798 (cattle, sheep and goats) in 1940 to 22,138 in 1947.

A new and enlarged lairage for impounding cattle prior to slaughter was completed in Kampala early in the year. The Arua market was rebuilt. With the co-operation of the Native Administrations many improvements have been made to markets outside townships.

Routine inspections were carried out of foodstuffs exposed for sale in townships. Any unsound food discovered during the course of these inspections was seized, if not surrendered voluntarily, and a magistrate's order obtained for its destruction.

The milk supply of most townships is inadequate in quantity, and in most instances the quality of the milk sold by African vendors leaves much to be desired. A dairy, stocked with grade cattle and under European supervision, has been opened at Port Bell. The milk is bottled by machinery on the premises in approved containers and delivered twice daily.

Premises where foodstuffs are prepared and sold, such as butcheries, bakeries and restaurants are subjected to regular inspection.

B.—Measures taken to Spread the Knowledge of Hygiene and Sanitation

81. It was not found possible to hold a health exhibition but health propaganda has been carried out in all districts. It is felt that with the rising generation some impression can be made, and during visits to schools and teacher training centres talks were given on hygiene.

The dissemination of information regarding sanitation, housing and the prevention of disease is regarded as an essential part of the duties of all medical staff, and particularly of those working in close contact with the rural population. Lectures were given on the principles of hygiene during the course of inspections for sleeping sickness and at suitable meetings where large numbers of the population had reason to assemble. Officers of this Department co-operated with the travelling demonstration teams working under the direction of the Department of Public Relations and Social Welfare. Health propaganda has been incorporated in the various plays, dialogues and instructional talks given by the touring teams to African audiences.

The protected springs which have been built in many areas have educated the population to prefer clean to muddy water and there are reports that requests have been received from chiefs in the more advanced areas for more and more protected springs.

The model houses with kitchens, latrines and ablution rooms, erected in several centres, continue to be used for demonstration purposes by assistant health inspectors. These full scale models are constructed mainly of local materials and conform to hygienic standards.

TRAINING OF SANITARY PERSONNEL

82. Assistant Health Inspectors

During 1947, there were 31 students in training for the African Sanitary Inspectors certificate, 5 in the first year, 11 in the second and 15 in the third and final year. Many of the candidates seeking admission to the training school had educational qualifications higher than the minimum but, because of the dearth of applicants likely to make efficient assistant health inspectors, the intake was reduced from 12 to 5.

At the examinations held in December under the auspices of the Joint East African Examining Board, 8 out of the 15 candidates who sat the examination were successful.

83. Hygiene Orderlies

The training of hygiene orderlies is carried out at Mbale. The training school opened in August, 1946, under the control of the Civil Reabsorption Department, but early in 1947 it became the responsibility of the Medical Department. The first course extended over a period of 15 months, but in future it will be of one year's duration.

Entry to the first course was restricted to ex-servicemen; 55 were accepted for training but 14 left, for various reasons, without completing the course. Out of 41 trainees who sat the final examination 35 were successful.

As mentioned previously in this report, the object of this course is to produce personnel, with a sound practical knowledge of general health work applicable to rural areas, who will be capable not only of instructing the rural population on the measures to be taken to prevent disease, but will also be capable of demonstrating with their own hands how certain works should be carried out. The syllabus of training was carefully prepared with this end in view and, while it has been necessary to include theoretical instruction, the training has a practical bias.

The following is a summary of the practical work carried out solely by the trainees themselves with guidance from the instructors:—

(i) Construction of a model type African dwelling with walls of pise-de-terre, concrete floor, roof of forest poles covered with tiles.

(ii) Construction of a model type pit latrine.

(iii Construction of a suitable kitchen for (i) above.

(iv) Construction of a suitable ablution room for (i) above.

(v) Manufacture of "Roman" tiles. This entailed the construction of a suitable kiln in brickwork, and all stages of tile-making from the handling of the raw clay to the covering of a roof with tiles.

(vi) Construction of an incinerator suitable for rural areas.

(vii) Construction of a stem disinfestor suitable for installing at a small dispensary or labour lines.

(viii) Construction of a "Carnie's" disinfestor.

(ix) Construction of a protected water supply.

Practical training was also given in the technique of vaccination against smallpox, the collection and identification of certain mosquitoes and their larvae, the collection and identification of the more common parasites or their intermediate hosts capable of causing disease in man, rat dissection and the fixing of spleen smears, and practical disinfection and disinfestation.

Weekly tests were held during the course and apart from indicating progress, they also served to impart a conscientious desire by trainees to improve their class marks.

SECTION IV.—PORT HEALTH WORK AND ADMINISTRATION

84. Lake Ports

Routine work in connection with shipping is performed by subordinate medical personnel. Travellers proceeding to Tanganyika Territory are required to be in possession of valid certificates of inoculation against yellow fever.

85. Air Ports

Flying boats and landplanes are required to make their first landing in the Protectorate at Port Bell and Entebbe respectively; the Nile at Laropi is no longer in use as a landing place for flying boats. Disinsectisation of all aircraft is carried out on arrival, and also prior to departure, in the case of aircraft proceeding to destinations outside the Protectorate. The volume of traffic through Entebbe aerodrome is increasing; during the last four years the number of aircraft landing at this aerodrome has been:—

1944	*1945*	*1946*	*1947*
77 ...	257 ...	261 ...	621

SECTION V.—MATERNITY AND CHILD WELFARE

86. Maternity and Child Welfare Clinics are held regularly at hospitals in charge of medical officers and at many rural dispensaries. 43,587 women attended Government institutions for ante-natal supervision compared with 41,668 in 1946. Re-attendances totalled 136,541 in 1947 compared with 83,016 the previous year.

87. The following are the figures for some of the larger centres:—

Centre	1946		1947	
	New cases	Attendances	New cases	Attendances
Mulago Hospital	1,981	9,445	2,509	17,064
Masaka and dispensaries	6,503	10,556	6,888	18,250
Mbale ,, ,, ...	11,390	18,048	12,009	17,649
Soroti ,, ,, ...	1,526	2,682	5,148	10,495
Fort Portal ,, ...	2,250	3,321	2,580	12,460
Mbarara and ,, ...	4,913	10,265	4,641	16,081
Kabale ,, ,, ...	1,771	4,542	7,522	16,741

88. In the following table, a comparison is offered of the results of pregnancy in women who had ante-natal supervision and women who had not, both groups being delivered in Government institutions:—

	Women under ante-natal supervision	Women not under ante-natal supervision
Number of women	8,805	2,497
Pregnancies resulted in:—		
(*a*) Miscarriage	493	444
(*b*) Still-birth	365	329
(*c*) Living babies born ..	7,947	1,724
Number of maternal deaths ..	66	112

89. The following table gives the number of confinements and their results in certain Government institutions:—

	Confinements excluding Miscarriage	Living babies born	Still-Births	Maternal Deaths
Mulago	899	815	84	40
Masaka	1,604	1,493	111	24
Mbale	1,484	1,397	87	30
Soroti	581	539	42	14
Fort Portal	464	430	34	6
Mbarara	1,032	1,006	26	17
Kabale	598	530	68	16
Lira	354	332	22	3
Mubende	950	924	26	4
Jinja	389	371	18	3

90. The following obstetric operations were performed:—

Caesarian section	132
Forceps delivery	291
Perforation and cranioclasm	36
Internal version	32
Removal of retained placenta	159
Perineal repair	602
Other operations–unclassified	133

91. The following table gives the number of infants attending child welfare clinics in certain districts:—

	Number of infants	Attendances
Entebbe and dispensaries	719	1,935
Fort Portal and dispensaries	2,720	6,301
Lira and dispensaries	8,002	15,198
Mbarara and dispensaries	4,750	13,556
Soroti ,, ,,	9,174	13,984

Attendances at these clinics are not confined to healthy or reasonably healthy children brought up for supervision, and the figures include children attending the clinics for the treatment of minor ailments.

REPORT ON THE LADY CORYNDON MATERNITY TRAINING SCHOOL

92. During the year, 51 students were admitted to the Preliminary Training School, 31 in January and 20 in July. After a course of training of three months duration, 22 elected to train in midwifery, the remainder choosing general nursing. At the examinations held by the Uganda Midwives Board in May and November, 25 students were successful.

93. The appended table gives the number of patients admitted to the wards attached to the school:—

Total confinements (including miscarriages)	507	Threatened miscarriage	65
Living babies born	445	Other conditions unclassified	190
Still-births	62	Maternal deaths	25
Miscarriages	52	Infant deaths	35

94. In the out-patient department, 973 expectant mothers attended for the first time; attendances totalled 2,365.

95. The returns from the country maternity centres maintained by the Church Missionary Society are summarized in the following table:—

District	Centre	Total Confinements excluding miscarriages	Living babies born	Still-Births	Miscarriages	Threatened Miscarriages	Maternal Deaths	Infant Deaths	New ante-natal cases	Total Out-patient attendances
Masaka	Kabuwoko	184	180	4	4	27	..	4	1,060	3,634
Mengo	Kapeka	137	127	10	12	43	..	2	985	2,443
Mengo	Lutete	181	174	7	14	22	1	7	1,034	3,161
Mengo	Mukono	117	112	5	13	22	..	5	888	1,682
Mengo	Nakifuma	197	189	8	17	27	1	2	1,064	3,106
Mengo	Ngogwe	182	174	8	8	13	..	5	1,982	3,964
	TOTAL	998	956	42	68	154	2	25	7,013	17,990

REPORT ON NSAMBYA MATERNITY TRAINING SCHOOL

96. There was an average of 78 students in training during the year. Forty-seven students were admitted to the Preliminary Training School. Out of 22 who entered in the first term, 3 failed the terminal examination, and one discontinued the course for health reasons; 7 have elected to take the course in general nursing and 11 are taking midwifery. Five out of 25 students admitted in the second term failed the terminal examination, 4 were unsuitable for further training, 6 are taking the general nursing course and 10 have chosen maternity training. Out of 15 students who sat for the certificate of the Uganda Midwives Board, 12 were successful.

97. The following table gives the number of patients admitted to the wards attached to the school:—

Total confinements including miscarriages	948	Threatened miscarriage	30
Living babies born	880	Other conditions–unclassified	332
Still-births	68	Maternal deaths	12
Miscarriages	39	Infant deaths	53

The number of trained staff nurses in the maternity wards was increased during the year with a view to giving more and better nursing care to the patients and confidence to the students.

98. In the out-patient department, 1,803 expectant mothers attended for the first time; attendances totalled 7,188.

99. The returns from the country maternity centres maintained by Nsambya Mission are summarized in the following table:—

District	Centre	Total confinements excluding miscarriages	Living babies born	Still-Births	Miscarriages	Threatened miscarriages	Other conditions unclassified	Maternal Deaths	Infant Deaths	New ante-natal cases	Infant Welfare	Total Out-patient Attendances
Mengo	Rubaga	153	149	4	5	18	19	..	3	480	72	3,078
Mengo	Kisubi	191	184	7	12	8	106	1	..	533	..	1,509
Mengo	Namilyango	129	128	1	3	5	..	1	1	239	113	1,612
Mengo	Nagalama	132	130	2	5	12	..	..	5	426	61	3,386
Mengo	Nkokonjeru	207	205	2	20	21	32	..	4	666	157	3,142
Mengo	Nyenga	123	122	1	3	3	20	..	3	357	56	2,213
Mengo	Gayaza	188	184	4	8	2	..	..	..	674	183	2,841
Mengo	Namagunga	98	92	6	11	2	..	..	..	393	..	995
Mengo	Katende	189	180	9	5	50	28	..	..	551	..	2,236
Masaka	Bikira	242	233	9	11	15	..	1	2	600	..	2,340
Masaka	Villa Maria	400	390	10	11	38	91	1	..	876	..	4,346
Masaka	Mitala Maria	437	416	21	34	67	46	..	5	1,307	..	3,183
Busoga	Iganga	198	186	12	3	19	..	..	6	1,462	..	6,383
Busoga	Budini	282	261	21	20	64	6	..	4	1,678	277	5,262
Busoga	Kamuli	457	437	20	34	186	384	..	12	1,844	525	7,212
Mbale	Palissa	50	49	1	3	8	14	1	2	51	15	237
Mbale	Dabani	85	83	2	5	9	4	..	..	229	90	601
Mbale	Nagongera	78	74	4	8	28	32	..	..	406	25	2,636
Teso	Ngora	80	80	..	..	6	10	..	..	81	..	457
Teso	Lwala	129	121	8	3	24	29	..	8	577	..	3,946
	TOTAL ..	3,848	3,704	144	204	585	821	5	55	13,430	1,574	57,615

SECTION VI.—HOSPITALS AND DISPENSARIES

100. The number of patients attending for treatment steadily increases with the provision of additional facilities.

101. At Mulago Hospital, the Physiotherapy Department has been expanded and the arrival of new equipment has enabled modern methods of treatment to be instituted; further, with the co-operation of the Department of Public Relations and Social Welfare, occupational therapy has been introduced with excellent results. Formerly, many patients admitted to the orthopædic wards left before treatment had been completed; spinning of wool, knitting and basket work are now being taught and most of the patients are anxious to learn. In addition to restoring lost movements of the hands in some cases, occupational therapy has made a valuable contribution towards restoring morale.

102. The following is a summary of the returns from the various units and divisions of Mulago Hospital: —

	In-patients				
	Number remaining at the end of 1946	Number admitted during 1947	Number discharged	Number died	Number remaining at the end of 1947
Medical Division ..	218	4,317	3,963	387	185
Surgical Division ..	210	3,709	3,633	128	158
Obstetrical Division ..	53	2,543	2,479	39	78
Ophthalmic Unit ..	15	590	577	..	28
V.D. Unit	68	1,334	1,319	24	59
Dental Unit	..	82	82	..	..
TOTAL ..	564	12,575	12,053	578	508

103. New out-patients at Mulago Hospital totalled 80,430 and re-attendances 115,447.

104. The following table compares the attendances at hospitals and dispensaries with the previous year: —

	1946	1947
New cases	1,922,540	2,293,125
*In-patients	81,229	83,452
*In-patient days	853,002	942,468
Total attendances	4,626,026	5,220,007
Surgical operations	6,046	8,891

*In patients at dispensaries in charge of officers below the rank of assistant medical officers are not included in these figures.

105. Information regarding the number of hospitals and beds in each province, the number of in and out-patients according to race treated in each province and the totals for the Protectorate, is summarized in Table F. Only the diseases treated in station hospitals and at dispensaries in charge of assistant medical officers are included in Tables V and VI (*see* Appendices).

TABLE F—MEDICAL UNITS, BEDS AND PATIENTS BY PROVINCES.

	BUGANDA PROVINCE	EASTERN PROVINCE	WESTERN PROVINCE	NORTHERN PROVINCE	PROTECTORATE TOTALS
Medical Units					
European Hospitals ..	2	2	1	..	5
Asian Hospitals ..	3	4	2	1	10
African Hospitals ..	7	6	5	6	24
Dispensaries	34	23	37	37	131
In-Patients					
BEDS AVAILABLE:					
Europeans	85	9	1	..	95
Asians	60	35	7	3	105
African—Hospitals ..	1,188	682	305	309	2,484
African—Dispensaries ..	217	601	278	81	1,177
TOTAL ..	1,550	1,327	591	393	3,861
CASES ADMITTED:					
European	1,196	36	3	..	1,235
Asian	1,698	751	103	23	2,575
African (excluding dispensaries other than those in charge of assistant medical officers) ..	28,838	26,512	12,349	11,943	79,642
TOTAL ..	31,732	27,299	12,455	11,966	83,452
TOTAL NUMBER OF IN-PATIENT DAYS	408,613	251,826	129,474	152,555	942,468
Out-Patients					
Attendances including Dispensaries ..	1,460,538	1,333,184	1,243,153	1,183,132	5,220,007
TOTAL NEW CASES					
European	2,714	493	245	77	3,529
Asian	4,347	7,020	849	275	12,491
African	211,658	335,364	110,914	158,483	816,419
TOTAL ..	218,719	342,877	112,008	158,835	832,439
DISPENSARIES TOTAL ..	348,680	361,854	352,824	358,202	1,421,560
MEDICAL EXAMINATIONS	6,101	13,647	10,633	8,745	39,126
GRAND TOTAL ..	573,500	718,378	475,465	525,782	2,293,125

REPORT OF THE DENTAL DIVISION

106. There are two dental clinics in the Protectorate, one for Europeans and Asians at the European Hospital, Kampala, and one for Africans at Mulago Hospital.

107. European Dental Clinic

The staff consists of one dental surgeon, a dental mechanic and two African dental orderlies. The dental surgeon visited Entebbe twice weekly and, in addition, visited all district headquarters at least once annually. In May, a dental X-Ray machine was received and installed.

The following table summarizes the work of the officer in charge of this clinic:—

(*a*)	APPOINTMENTS	2,145
(*b*)	THE FOLLOWING CONDITIONS WERE TREATED—	
	Caries	861
	Acute pulpitis	45
	Acute alveolar abscess	27
	Chronic alveolar abscess	3
	Apical infections	148
	Localised parodontal infections	33
	General paradontal disease	18
	Gingivitis	6
	Acute ulcerative stomatitis	2
	Epulis	1
	Odontome	1
(*c*)	CONSERVATION—	
	Silver amalgam fillings	701
	Synthetic porcelain fillings	147
	Cement fillings	29
	Gold inlays	6
	Plastic inlays	15
	Plastic jacket-crowns	2
	Plastic dowel-crowns	1
	Bridges	2
(*d*)	TREATMENT—	
	Zinc oxide dressings	235
	Gutta-percha dressings	16
	Carbolised resin dressings	7
	Silver nitrate applications	37
	Zinc chloride applications	9
	Root treatment	3
	Scalings	571
	Local anaesthetics	415
	General anaesthetics	34
	Extractions with local anaesthetics	520
	Extractions with general anaesthetics	110
(*e*)	PROSTHESIS—	
	Dentures	74
	Repairs	38
	Gold inlays	6
	Plastic inlays	15
	Plastic crowns	3
	Bridges	2
	Orthodontic appliances	1

(*f*) RADIOLOGY—
During the period 6th May-31st December, 145 patients were the subject of one or more radiological examinations.

(*g*) During the year the following stations were visited, namely, Jinja, Mbale, Soroti, Moroto, Lira, Gulu, Arua. Masindi, Fort Portal, Kabale, Mbarara and Masaka.

108. Mulago Hospital Dental Clinic

The new dental clinic was completed in April. The staff consists of one European dental surgeon, an African medical assistant, and one dental orderly. The dental surgeon has no beds in the hospital, but dental cases such as fractures of the jaw are admitted to the surgical wards, where the dental surgeon co-operates with the surgical specialists in their treatment. The number of dental in-patients treated during the year was 82; out-patients numbered 3,895.

In Buganda Province eight schools were visited at intervals and treatments given at each of these schools. Talks were given on the need for, and methods of, oral hygiene. It is reported that the pupils always seemed interested in these talks on a subject which is new to them, and many sensible and pertinent questions were asked. The dental surgeon further reports that among the school children he has examined, the incidence of caries was markedly low, while that of tartar formation was high. During a visit to the Eastern Province, 729 African school children were treated.

In co-operation with the Specialist Gynæcologist, attention was given to women attending for ante-natal supervision in an attempt to make their mouths as clean and as healthy as possible before delivery. In this connection the dental surgeon reports that Penicillin in the form of gelatine pastilles was most effective in clearing up rapidly most cases of ulcerative gingivitis.

TRAINING OF SUBORDINATE MEDICAL AND NURSING PERSONNEL

109. Nurses

African nurses are trained at Mulago Hospital, and at the Mission training schools attached to Nsambya and Mengo Hospitals.

During 1947, only one sister tutor was available at Mulago to undertake training; she was assisted by one medical assistant and a certificated African nurse. In addition to this staff, the sister tutor was able to call upon the services of the specialists and medical officers on the staff of the hospital. A ward was converted to provide lecture and demonstration rooms.

The same curriculum is used at all three training schools; it is modified, as necessity demands, by a committee composed of representatives of the training schools under the chairmanship of the Director of Medical Services. In this way close contact is maintained with the activities and requirements of the schools devoted to the training of nurses.

The following are the numbers and stages of training of pupil nurses at the school attached to Mulago Hospital:—

Preliminary and First Year ...	44
Second Year	27
Third and final Year ...	17

Fourteen candidates entered for the final examination held at the end of the year and all were successful; three are entering the Lady Coryndon Maternity Training School with a view to qualifying as midwives.

There were 13 pupil nurses in the first year at Nsambya General Nurses Training School and 29 in the same year at the school attached to Mengo Hospital. The average number in training at the former centre during the year was 40. Twelve final year students from Nsambya and 23 from Mengo Training School were successful in the final examination for certificated nurses.

110. Medical Assistants

The training of personnel in this category is carried out at Mulago Hospital and at the recently established training centres at Masaka and Lira. In the Report of the Committee on the Training of Nurses for the Colonies, the view is expressed that "the training of the medical aid should not be given in or near a medical school", and in support of this view, no candidates were accepted for training at Mulago Hospital in 1947. Students who had commenced the course have been retained and training will not finally cease until the end of 1949. There were in training in 1947, 15 medical assistants in their 3rd year; all passed the final examination and were absorbed into Government service.

111. Masaka Training Centre

A short course of training for ex-servicemen with previous nursing experience was held from August, 1946 to May, 1947. Out of the 46 candidates who completed the course, 8 qualified as medical assistants, 24 as nursing orderlies and 15 failed; 8 of the successful candidates took up employment with private firms maintaining dispensaries for their employees.

A further course of training commenced in May when 58 ex-servicemen joined the school. Because of the low standard of education of this group instruction was restricted to the syllabus for the nursing orderlies' course; 31 failed the examination held at the end of the year and out of 27 successful candidates only 4 were recommended for training as medical assistants.

112. Lira Training Centre

As in the case of the Masaka training school, this centre is in charge of a medical officer with Army experience assisted by a sister tutor and two African instructors (medical assistants). During the year, 51 ex-servicemen received training, of whom 38 qualified as nursing orderlies and three as medical assistants; 10 candidates failed to qualify in either capacity.

113. Dispensers

There were 18 learner dispensers under instruction during the year—eight in the first year class, six in the second and four in the third and final year class. In the annual examination held in December, all the final year students were successful.

114. Laboratory Assistants

The training of laboratory assistants was continued throughout the year, though hampered by shortage of European staff. The principle followed has been that of giving the greatest attention to first year students, on the basis that this is the year which determines whether a student is suitable to proceed to his second and third year, so that only those who are efficient and proficient complete the training. In this way the greatest use is made of the limited training facilities.

There were 17 students in training, six first year, two second and nine in the third and final year.

SECTION VII.—PRISONS

115. The details for each Protectorate Prison for 1947 were as follows:—

Prison	Daily average in prison	Daily average on sick list	No. of Admissions to hospital	Number of deaths
Central Prison Luzira	1,005	9·00	410	13
Kitalya Prison Farm	286	3·08	75	..
Arua	86	0·67	72	9
Fort Portal	24	0·73	28	1
Gulu	80	3·19	78	1
Jinja	105	4·44	144	3
Lira	98	0·33	99	1
Masaka	77	1·44	64	..
Mbale	95	1·37	61	..
Masindi	93	2·35	65	1
Mbarara	93	1·79	49	1
Moroto	64	2·05	64	1
Soroti	68	0·05	57	1
TOTAL	2,174	30·96	1,266	32

116. There were 32 deaths among convicts in 1947 compared with 34 in 1946. The causes were:—

Typhoid fever	2	Malaria	1
Pneumonia	2	Suicide	3
Heart failure	4	Anaemia	1
Rupture of spleen	1	Dysentery	1
Intestinal obstruction	2	Asthma	1
Cerebro-spinal meningitis	4	Acute mania	1
Tuberculosis	3	Tubercular meningitis	1
Pulmonary abscess	1	Epilepsy	1
Gangrene of lung	1	Injuries	1
Amoebic hepatitis	1		

117. The general health of the prisoners was good and no epidemics of major disease occurred during the year. There were 25 convicts in the Central Prison suffering from leprosy, contracted before admission; they are accommodated in an annexe to the prison hospital. With a view to improving the treatment of these cases, the assistant medical officer in residence at the Central Prison was relieved to take a course of instruction at a leprosy settlement.

NATIVE ADMINISTRATION PRISONS

118. Steady progress continues to be made in the improvement of the sanitation and accommodation at these institutions. Regular visits of inspection are made by medical officers and assistant medical officers who draw attention to remediable defects in sanitation, structure and diet. Many of these institutions are native type buildings which leave much to be desired in the way of sanitation, general cleanliness and accommodation; diets are still in many cases inadequate and overcrowding has not been eliminated every where. The health of the inmates was generally satisfactory.

SECTION VII (A).—PROTECTORATE MENTAL HOSPITAL

119. The hospital buildings provide adequate accommodation for 114 male and 54 female patients but the average number of inmates has been consistently above these figures and plans have been approved for additional wards to relieve overcrowding. Overcrowding was so serious during the year that, as a temporary measure, it became necessary to declare certain district prisons to be mental hospitals, under the Mental Treatment Ordinance. Admissions to district mental hospitals were restricted to selected patients not requiring special attention or treatment, and transfers to the central mental hospital were arranged as accommodation became available.

120. There were 330 patients detained in the central mental hospital at the end of the year, 233 male and 97 female. Admissions to the institution

numbered 195, including 18 readmissions; 131 patients were discharged compared with 84 in 1946. The details are summarized in the following table:—

Particulars	Class	Male	Female	Total
FIRST ADMISSIONS ..	Civil ..	120	49	169
	Criminal ..	8	..	8
	TOTAL ..	128	49	177
RE-ADMISSION ..	Civil ..	14	4	18
	Criminal ..	..	..	..
	TOTAL ..	14	4	18
TOTAL ADMISSIONS ..	Civil ..	134	53	187
	Criminal ..	8	..	..
	TOTAL ..	142	53	187
TOTAL NUMBER UNDER CONVULSANT THERAPY ..	Civil ..	43	36	79
	Criminal ..	..	..	..
	TOTAL ..	43	36	79
NO. DISCHARGED ..	Civil ..	92	31	123
	Criminal ..	5	3	8
	TOTAL ..	97	34	131
NO. DIED	Civil ..	41	16	57
	Criminal ..	1	..	1
	TOTAL ..	42	16	58
NO. REMAINING AT END OF YEAR ..	Civil ..	191	88	279
	Criminal ..	42	9	51
	TOTAL ..	233	97	330

One European case, who was admitted during the year, was later transferred to Kenya. Ten Asian patients were admitted and 11 were discharged, leaving four under treatment.

121. There were 58 deaths due to the following causes:—

Neuro-syphilis	28	Dysentery	1
Tuberculosis	7	Trypanosomiasis ..	1
Broncho-pneumonia ..	5	Congenital maldevelopment	1
Malnutrition	4	Depressive psychosis ..	1
Senility	3	Acute encephalitis ..	1
Anaemia	1	Abscess of lung ..	1
Gangrene of lung ..	1	Meningitis	2
Toxaemia	1		

122. An electric convulsant therepy apparatus was installed during the year and is being employed in suitable cases; shock therapy, with injections of heptazal and phrenazal, continues to be used in selected patients.

123. All mental patients whose condition allows of their engaging in occupational therapy are employed, according to their capacity, on gardening, carpentry or domestic duties.

124. The diet provided is adequate in quantity, quality and variety, being supplemented by produce from the hospital garden. Special diets are supplied

when required. No cases of deficiency disease have been recorded among inmates whose period of residence extends over a number of years. In spite of overcrowding, which reached serious proportions during several months, the hospital has been singularly free from outbreaks of infectious disease.

SECTION VIII.—METEOROLOGY

125. No information is available.

SECTION IX.—SCIENTIFIC

(A).—REPORT OF THE MEDICAL LABORATORY

The Senior Pathologist proceeded on leave pending retirement in February. A new Pathologist arrived on first appointment in March and has acted, throughout the year, as senior pathologist. Dr. Davies, medical officer, who supervised the work of the branch laboratory at Mulago Hospital, was transferred to the Pathological Division with effect from the 1st January, 1947. Of the four posts for European laboratory assistants, three remain unfilled.

The training of African laborary assistants has continued, though hampered by the shorage of European staff. Three laboratory assistants from district hospitals were given special courses of instruction.

Towards the end of the year, the acting senior pathologist undertook two tours of inspection after which a report on the laboratory facilities at district hospitals was submitted. Subsequently, African laboratory assistants trained to perform and interpret the Kahn test were posted to three of the larger hospitals. In addition to the advantages from the technical point of view, this experiment in decentralisation of laboratory work, offers the African technician greater responsibility and scope.

A marked increase has taken place in the volume of medico-legal work undertaken for the Police Department as shown by the number of post-mortem examinations made in the last four years:—

1944		*1945*		*1946*		*1947*
123	...	113	...	99	...	234

Inoculations.—266 Europeans, 1,645 Asians and 3,493 Africans were inoculated against yellow fever and issued with certificates.

Typhus.—It was noted that a number of sera, sent for Widal or Weil—Felix test, showed the presence of agglutinins for *B. proteus* OX 19. Out of 160 sera, 34 gave a titre of over 1/250 against OX 19, 9 gave positive reactions with both OX 19 and OX2, and one with OX 2 alone. Attempts to isolate the causal *Rickettsia* from the cases by animal inoculation have so far been unsuccessful. Investigations are continuing.

H. Para-influenza.—This bacillus was isolated from the cerebro-spinal fluid taken from an African child both before and after death. This appears to be the first proved case of meningitis due to *Hæmophilus* recorded in Uganda.

Histo-Pathology.—Biopsies of malignant tumours revealed once again the striking preponderance of neoplasms arising from squamous epithelium: of even greater interest is their racial distribution; forty-three epitheliomata were examined, all but one occurring in Africans. The exception was an epithelioma of the lip occurring in a European, this being the only tumour in this situation in the series. Five basal-cell carcinomate were reported, four occurring in Europeans and only one in an African. Seven cases of Kaposi's multiple hæmorrhagic sarcoma were reported, all occuring in Africans. This condition, generally considered to be a rarity, appears to be not uncommon in Uganda. Six biopsies of thyroid gland were examined; all were adenomata. One biopsy from a woman's nose was diagnosed as rhinoscleroma.

Autopsies at Mulago Hospital.—It was possible to perform an autopsy in nearly every case in which clinical or pathological features of interest made one desirable. The number of autopsies performed on hospital patients, 475, was the highest ever performed in a single year. The findings disclosed the common causes of death to be the respiratory diseases, especially tuberculosis which is of extreme severity, meningitis, neuro-syphilis, and disorders consequent upon or associated with malnutrition. Many interesting cases featured at autopsy, notably a case of malignant giant-cell sarcoma of bone and three primary intracranial neoplasms. The importance of a heart disease of obscure aetiology, called provisionally endomyocardial fibrosis is becoming apparent, no less than ten severe cases being met with.

DETAILS OF WORK PERFORMED.

(*a*) *Histo-Pathology.*—Histological sections were prepared from specimens taken at three hundred and one autopsies. Sections were also prepared from five hundred and sixty-two biopsy specimens. A brief analysis of these follows:—

Biopsies:—

Malignant tumours		106
Epitheliomata	48	
Basal cell carcinomata	5	
Carcinoma of breast	5	
Carcinoma of bowel	3	
Other carcinomata	10	
Sarcomata	14	
Melanomata	6	
Endotheliomata	5	
Other malignant tumours	10	
Simple tumours		47
Lymph gland biopsies		55
Tuberculous	25	
Lymphadenomata	2	
Others	28	
Endometrial biopsies		39
Liver biopsies		30
Muscle biopsies		32
Others		253
TOTAL		562

(*b*) *Medico-legal.*—Two hundred and thirty-four autopsies were performed at the request of the Police, all but two of them in the mortuary at Mulago Hospital. One hundred and fifty-eight investigations of a medico-legal nature (excluding chemical analyses) were performed, as follows:—

Exhibits examined for human blood	127
Exhibits examined for seminal stains	24
Grouping of blood stains	3
Blood grouping for paternity tests	2
Examination of hair	1
Examination of organs for "live birth"	1

(*c*) *Autopsies at Mulago Hospital.*—Four hundred and seventy-five autopsies on hospital patients were performed. As usual, autopsy disclosed a variety of pathological conditions in the body of nearly every African. In the following analysis, the figures refer to the chief cause of death only.

Acute infections (*114*).

Acute lobar pneumonia	46
Bronchopneumonia (children)	3
Disseminated pneumonia	1
Lung abscess	6
Gangrene of lung	1
Acute empyema	2
Bronchiectasis	1
Whooping cough	2
Pneumococcal septicaemia	1
Staphylococcal septicaemia	1
Pyomyositis	6
Acute septic arthritis	1
Osteomyelitis	1
Suffocative laryngitis	1
Peritonitis, primary (pneumococcal)	1
Peritonitis, secondary (various)	23
Bacillary dysentery	1
Typhoid fever	13
Prostatic abscess	1
Tetanus	1

Tuberculosis (*68*).

—pulmonary	59
—generalised	3
—of spleen	2
—arthritis	1
—peritonitis	2
Tuberculoma of brain	1

Traumatic disease (*19*).

Burns	1
Operative shock	1
Ruptured spleen	2
Fractured skull	4
Fractured spine	3
Fractured pelvis	4
Fractured mandible	1
Multiple fractures	2
Human bite	1

Cardio-vascular and Renal Disease (*63*).

Acute bacterial endocarditis	4
Chronic infective pericarditis	1
Endo-myocardial fibrosis	10
Mitral stenosis	2
Atheromatosis	3
Periarteritis (? type)	1
Nephritis	17
Polycystic kidneys	1
Urethral stricture (complications of)	12
Aortic syphilis (6 aneurysms)	12

Disorders of parturition (*11*).

Peritonitis	1
Ruptured uterus	2
Obstructed labour	2
Pulmonary embolism	1
Still-births	5

Cerebral disease (80)

Traumatic haemorrhage	2
Spontaneous sub-arachnoid haemorrhage	1
Cerebral embolism	1
Cerebral thrombosis	2
Idiopathic epilepsy	1
Cerebral abscess	2
Primary meningitis	28
Localised lumbar meningitis	1
Secondary meningitis	3
Encephalitis	2
Myelitis	1
Neuro-syphilis	36

Poisons (3).

Bismuth poisoning	1
Post-arsenical dermatitis	2
Cause of death: uncertain	9

Alimentary tract disease (61).

Peptic ulcer	1
Acute haemorrhagic pancreatitis	1
Pancreatic fibrosis	1
Acute hepatitis	8
Cirrhosis of liver	18
Cirrhosis of liver (Bilharzial)	2
Malnutrition	30

Tumours (20).

Carcinoma of liver	7
Carcinoma of testis	1
Carcinoma of pylorus	2
Carcinoma of kidney	1
Carcinoma of skin	1
Carcinoma of prostate	1
Fibrosarcoma	1
Chondrosarcoma	1
Giant-cell sarcoma of bone	1
Melanoma	1
Kaposi's sarcoma	1
Malignant reticulosis	1
Acute leukaemia	1

Parasitic disorders (13).

Malaria	6
Blackwater fever	1
Ankylostomiasis	1
Trypanosomiasis	5

(*d*) *Bacteriology:—*

	European	Asian	African	Total
Faeces cultures	35	14	143	292
Urine cultures	81	44	95	220
Blood cultures	8	12	204	224
C.S.F. cultures	..	4	150	154
Body fluid cultures	3	13	90	106
Pus and Smear cultures	11	21	205	237
Swab cultures	30	8	709	747
Dark ground examinations	..	..	75	75
Examination for fungi	5	..	..	5
Agglutination tests: Widal	24	27	706	757
Weil-Felix	11	1	148	160
Brucellae	9	4	36	49
Water samples	..	(from 38	sources)	146
Sterility tests on drugs	..	..	..	209
Vaccines prepared	..	..	..	6

B. typhosum was isolated from the blood in fifteen specimens, and *B. para-typhosum C.* in one case. Agglutination regarded as indicating *Brucella* infection was obtained in eight cases.

(*e*) *Kahn Tests.*—18,318 samples of blood were tested, and 373 cerebro-spinal fluids. In the last thousand tests, 266 gave strong positive, and 278 weak positive reactions; only 45·6% were negative.

(*f*) *Hæmatology*:—

	European	Asian	African	Total
Haemoglobin estimations	14	26	1,177	1,217
Red cell counts	26	32	441	499
White cell counts	51	35	1,375	1.461
Differential counts	51	60	1,366	1,476
Platelet counts	2	..	8	10
Fragility tests	..	..	5	5
Tests for sickling	..	..	62	62
Blood grouping	3	..	189	192
Sedimentation rate	4	3	48	55

(*g*) *Blood Smears for Parasites*:—

	European	Asian	African	Total
Total smears examined	949	818	15,696	17,463
Positive for malaria	75	83	2,611	2,769
Positive for treponemata	..	..	63	63
Positive for trypanosomes	..	..	5	5

(*h*) *Biochemistry*:—

	European	Asian	African	Total
Blood sugar	2	14	5	21
Glucose tolerance tests	2	6	8	16
Blood urea	10	11	120	141
Blood non-protein nitrogen	..	..	33	33
Urea concentration test	..	1	19	20
Van Den Bergh reactions	..	1	85	86
Blood proteins	..	..	239	239
Miscellaneous	3	1	13	17

(*i*) *Other Routine Tests*:—

	European	Asian	African	Total
Urethral smears	9	47	5,839	5,795
Cerebro-spinal fluids	3	5	815	823
Cerebro-spinal Lange tests	..	..	118	118
Faeces, microscopical	743	224	2,757	3,724
Urines	647	174	1,038	1,859
Swabs, smears, etc.	..	..	285	285
Sputum	39	53	1,423	1,515
Miscellaneous	..	..	82	82

Certain of the positive findings in routine tests are given below:—

	European	Asian	African	Total
(*a*) *M. tuberculosis* in sputum	2	5	394	401
(*b*) *E. histolytica* in stools	18	6	105	189
(*c*) *S. mansoni* in stools	2	..	19	21
(*d*) *S. haematobium* in urine	1	..	..	1
(*e*) *Hymenolepis nana* in stools	4	3	..	7
(*f*) Gonococcus in urethral smears	4	5	4,208	4,217
(*g*) Gonococcus in eye smears	..	..	5	5

(B).—REPORT OF THE GOVERNMENT CHEMIST

The total number of samples and exhibits received for analysis during the year was two hundred and ninety-seven compared with two hundred and twenty-five in the previous year.

Water.—Thirty-five samples intended for domestic use were submitted for analysis. These included fifteen samples from Tororo in connection with the regular control of the water purifying plant, and twelve samples from new bore holes at Kabale, Gulu, Namulonge and Bugiri. The bore hole water on the whole was found to be of high organic purity.

Food and Drugs.—Sixty-eight samples were examined under this head. Fourteen samples of cows milk were received for analysis; of these five contained added water, three were decomposed on arrival and the rest were genuine.

Twelve samples of cotton seed oil were examined for purity and quality and three samples of arachis oil for purity or conformity with B.P. requirements. Six samples of papain were examined for purity and proteolytic activity. Other samples examined were native beer, potable spirits and mineral water, wheat flour, maize meal, sugar and local salt. Drugs and medicines were received from Medical Stores, Entebbe and from medical officers for examination for purity or conformity with a prescription.

Criminal Investigations.—One hundred and seventeen specimens or exhibits were examined in thirty-four cases. Most of these required the identification of poison. Poisons identified were arsenic, bismuth, cocaine, a phenol, formalin and a sulphonamide. Other investigations for the Police included the identification of carborundum in engine sump oil in a case of suspected malicious damage. In the course of the year a number of estimations of bismuth were made in cases where bismuth injections had been administered but death was due to other causes. The investigation is not yet complete but results up to date appear to indicate that the quantity of bismuth remaining in the organs in cases of bismuth poisoning bears little relation to the toxic effect of the drug.

Miscellaneous.—Forty-one samples were examined. These included six samples of tobacco for water content, five pieces of textile fabric, samples of soap, oils and chemicals used in soap making, chemicals used for water treatment, and native medicines.

(C).—REPORT OF THE ENTOMOLOGICAL DIVISION

With the inception of the Tsetse Control Department on 1st January, 1947, the transfer to the new Department occurred of several European field officers and assistants, and a number of the African entomological staff of this division. One entomologist was seconded to the same Department and has been engaged exclusively on Tsetse control work throughout the year. In March, the senior entomologist proceeded on leave pending retirement, and for the greater part of the year there has been but one effective entomologist to carry on the work of this division. In spite of this shortage of staff, a considerable amount of valuable work was performed. The more important of the entomologist's activities are reported briefly under the following headings:—

(*a*) *Tsetse Investigation.*—Considerable assistance and technical advice was given at various times to the newly formed Tsetse Control Department. A survey of part of the Sleeping Sickness areas in the Western Province was made in order to investigate the possibility of allowing the establishment of fishing settlements within restricted areas. Several requests have also been made by the Veterinary Department for Tsetse surveys in various parts of the country. It was possible in almost every case to accede to these requests.

(*b*) *Anti-Mosquito and Anti-Malaria Investigations.*—An original mosquito survey has been made in the Kigezi Resettlement areas, and re-surveys of the townships of Lira, Masindi, Gulu, Masaka, Bombo and Mbale have been completed. Progress has been made in giving publicity to the efficiency of the larvivorous fish of the *Lebistes* genus and stocks of these fish have been released at Bukalasa, Lira, Gulu and Masindi. In some of these stations the attempts to establish these fish have been successful; in those attempts which were unsuccessful, failure was generally found to be attributable to copper sulphate which had been placed in the pools to inhibit the growth of algae.

Experiments were instituted in Kampala to ascertain and determine the concentration of copper sulphate which would be tolerated by *Lebistes* but these experiments were first interrupted by field work and later nullified by school children who discovered that the experimental ponds were ideal for net fishing.

In many stations, particularly those which are in the vicinity of papyrus swamps, the *Tæniorhynchus* mosquito occurs in large numbers. Though not malarial vectors, these insects, due to their diurnal feeding habits are a very real nuisance. They are not affected by the usual methods of control since they obtain their oxygen supply from the roots of aquatic plants below the surface. Studies of the bionomics of this mosquito are being made under laboratory conditions with a view to eventual control.

During the year a month's course in medical entomology for assistant health inspectors was held.

(D).—REPORT OF THE RADIOLOGICAL DIVISION

The staff of this division consists of one Specialist Radiologist, two European radiographers, five African dark-room attendants, and one African clerk. One radiographer's post is vacant.

A Watson's 4-valve X-ray apparatus was installed in the European Hospital, Kampala, and patients in this institution have no longer to be sent to the Medical Laboratory for radiological examination, as was formerly the case.

A Watson's portable X-ray apparatus was received in October, releasing the Victor portable set which has been transferred to Jinja where facilities for radiological investigation have been requested repeatedly.

The total number of cases examined at the Medical Laboratory was 2,759, compared with 2,534 in 1946. With limited radiological facilities, a skiagraphic examination is possible only in a small proportion of those cases in which it could profitably be used.

(E).—REPORT OF THE PHARMACEUTICAL DIVISION

This division is composed of three main sections (*a*) the Medical Store, (*b*) the pharmaceutical manufacturing laboratory, and (*c*) the dispensary and dispensers' training school at Mulago. The first two sections are located at Entebbe. The present staff consists of a chief pharmacist and three pharmacists; four Asians and seventy-one Africans are employed in various capacities.

The delivery of stores from the United Kingdom has shown little improvement and the resultant shortage of stocks of many items is a cause of continual anxiety. Gauze, cotton wool and lint have been in short supply, as only small quantities arrived during the year; consequently, it has been necessary to purchase supplies of these items locally when it becomes known that traders had received consignments. The cost of drugs, dressings and equipment has doubled or trebled, in many instances. Departmental expenditure on medical stores has risen from £33,000 in 1940 to £110,000 in 1946, and £117,000 in 1947. This latter figure is barely adequate for present requirements, and it makes no allowance for the creation of a reserve stock such as was held prior to the war.

Two large buildings used for bulk storage were demolished during the year as they interfered with the new European housing scheme in Entebbe, but alternative accommodation was made available. The scattered distribution of the remaining bulk stores has still to be dealt with. Work has commenced on a "cold room" at the main medical store and the building should be completed and in use early next year.

The Manufacturing and Laboratory Section.—The past year has shown a marked increase in the variety of preparations produced, though the total volume approximates to that of the year 1946, which exceeded the output in previous years. That production has not greatly increased this year has been due to shortage of raw materials, delay in arrival of supplies, restricted laboratory accommodation and lack of certain modern labour-saving equipment.

The following tables whows the quantities of various preparations manufactured in the pharmaceutical section during the past three years:—

	1945	1946	1947
Infusions—pints	694	246	896
Sterile preparations and injections:—			
Ampoules	..	80	267
Bottles	2,500	2,700	1,653
Litres	2,156	1,919	3,328
Liniment—pints	4,377	6,512	4,465
Liquors—pints	261	226	820
Mixtures—pints (concentrated)	960	352	1,496
Spirits—pints	962	1,712	1,464
Sprays—pints	3,888	6,803	6,491
Syrups—pints	888	797	1,117
Tinctures—pints	1,923	2,530	3,590
Ointments—lbs.	17,471	27,034	27,445
Miscellaneous—pints or lbs.	9,676	14.584	17,390

(F).—SCIENTIFIC PAPERS

The undermentioned Scientific papers were published during the year:—

Hunter, J. K. (1947) "An epidemic of bacillary dysentery in Kigezi District, Uganda". *E. Afr. Med. J.*, Vol XXIV. 98.

Muwazi, E. M. K., Trowel, H. C. and Davies, J. N. P. (1947) "Congenital syphilis in Uganda". *E. Afr. Med. J.*, Vol. XXIV. 152 and 241.

Boase, A. J. (1947) "Rhinosporidiosis". *E. Afr. Med. J.*, Vol. XXIV. 199.

Davies, J. N. P. and Trowell, H. C. (1947) "A case of Carcinoma of the Bronchus in a Ganda Male". *E. Afr. Med. J.*, Vol. XXIV. 337.

Trowell, H. C. (1947) "A case of gout in a Ruanda African". *E. Afr. Med. J.*, Vol. XXIV. 346.

Boase, A. J. (1947) "Trombiculid Mites on Eyelid". *E. Afr. Med. J.*, Vol. XXIV. 363.

Hopkins, G. H. E. (1947) "Annotated and illustrated Keys to the known Flies of East Africa". *Uganda Journal,* Vol. XI, No. 2.

APPENDIX I

REPORT ON THE MEDICAL SCHOOL, MULAGO FOR THE YEAR 1947

Dr. A. Galloway, Lecturer in Anatomy, Makerere College, was appointed Dean of the Medical School.

During the year, two students who were referred in Obstetrics and one who was referred in Pharmacology were re-examined and passed.

The yearly examination took place in December with the following results: —

Second examination for the Diploma (Anatomy and Physiology: Part I).

Ten candidates were presented and all passed.

Third examination: Part I. (Pharmacology).

Ten candidates were presented. Nine passed, two with distinction. One, a Uganda student was recommended to discontinue the course.

Third examination: Part II. (Pathology and Forensic Medicine).

Five candidates were presented for Pathology. Four passed; one was referred for six months. Six candidates were presented for Forensic Medicine and all passed.

Third examination: Part III. (Medicine, Surgery, Obstetrics and Preventive Medicine).

Five candidates were presented. Four passed, two with distinction in Surgery. One was referred for six months in Obstetrics and Preventive Medicine.

The following table shows the territories to which the successful candidates belong: —

Subject	Number passed	Kenya	Tanganyika	Uganda	Nyasaland	Zanzibar
Anatomy and Physiology ..	10	3	2	3	1	1
Pharmacology	9	2	..	7	..	..
Pathology	4	1	1	2	..	..
Forensic Medicine ..	6	1	1	3	..	1
Medicine and Surgery ..	1	..	1	..	..	..
Medicine, Surgery, Obstetrics and Preventive Medicine	4	3	1	..	..	..

The external Examiners were: —

G. O. Timms, M.B., B.S. (*Lond.*) M.R.C.S. (*Eng.*) L.R.C.P. (*Lond.*) Pathologist, Kenya.
(Pathlogy and Forensic Medicine).

J. F. Jarvis, M.B., B.S. (*Lond.*); F.R.C.S. (*Eng.*); M.R.C.P. (*Lond.*); M.R.C.S. (*Eng.*)
Surgical Specialist, Kenya.
(Anatomy and Surgery).

P. G. Preston, M.B., ch.B. (*Sheff.*); M.R.C.O.G. Medical Officer, Kenya.
(Obstetrics and Gynaecology).

I. W. J. McAdam, M.B., ch.B. (*U. Edin.*); F.R.C.S. (*Edin.*) Specialist, Uganda.
(Surgery).

A. W. Williams, M.A. (*Camb.*); M.D., M.R.C.S. (*Eng.*) M.R.C.P. (*Lond.*)
Medical Specialist, Tanganyika Territory.
(Physiology and Medicine).

J. K. Hunter, M.B., ch. B. (*Glas.*)
(Preventive Medicine).

H. Lehmann.
(Pharmacology).

(A) STAFF. APPENDIX II

PRINCIPAL APPOINTMENTS, PROMOTIONS, CHANGES, Etc., DURING 1947

APPOINTMENTS

	Dates
Dr. J. K. T. Cherry to be Medical Officer	4– 1–47
Dr. A. B. Raper to be Pathologist	13– 2–47
Miss B. M. Williams to be Nursing Sister	13– 2–47
Dr. J. G. Brown to be Medical Officer	21– 2–47
Mr. T. L. Armitt to be Health Inspector	21– 2–47
Miss J. M. Passmore to be Nursing Sister	21– 2–47
Miss E. E. S. King to be Nursing Sister	2– 4–47
Dr. W. Williams to be Medical Officer	2– 4–47
Mr. F. Harrison to be Pharmacist	2– 4–47
Miss C. Watts to be Nursing Sister	31– 5–47
Miss A. M. Weatherhead to be Nursing Sister	3– 6–47
Mrs. A. Balmer to be Nursing Sister	24– 4–47
Mr. J. Hoyle to be Assistant Hospital Superintendent	23– 6–47
Miss C. K. Haines to be Stenographer Secretary	24– 7–47
Dr. J. Fairfull-Smith to be Medical Officer	25– 8–47
Dr. E. J. Blackaby, Medical Officer, Zanzibar, to be Senior Medical Officer, Uganda	1– 1–47
Dr. R. C. Speirs, Assistant Director of Medical Services, Kenya, to be Deputy Director of Medical Services, Uganda	26– 3–47

ACTING APPOINTMENTS

Dr. A. R. Lester, S.M.O., to act as D.D.M.S.,	1– 3–47	to	6– 4–47
Dr. B. A. Coghlan, S.M.O., to act as A.D.M.S.,	1– 3–47	to	6– 4–47
Dr. A. B. Raper Pathologist, to act as Senior Pathologist	11– 3–47		(throughout the year)
Dr. J. Williamson, A.D.M.S., to act as D.D.M.S.,	7– 4–47	to	8– 5–47
Dr. A. R. Lester, S.M.O., to act as A.D.M.S.,	7– 4–47	to	8– 5–47
Dr. B. A. Coghlan, S.M.O., to act as A.D.M.S.,	9– 5–47	to	23– 5–47
Dr. B. A. Coghlan, S.M.O., to act as D.D.M.S.,	24– 5–47	to	31–12–47
Mr. J. H. Taylor, Health Inspector, to act as Chief Health Inspector	25– 5–47		(throughout the year)
Mr. F. Smith, Assistant Instructor of Hygiene to act as Instructor of Hygiene	21– 6–47		(throughout the year)
Mr. D. W. Munday, Health Inspector, to act as Assistant Instructor of Hygiene	21– 6–47		(throughout the year)
Dr. W. Barnetson, Medical Officer, to act as Senior Medical Officer	27– 6–47	to	23– 9–47
Mr. H. Lennox, Male Mental Nurse, to act as Superintendent, Mental Hospital, Mulago	24– 6–47		(throughout the year)
Dr. J. J. Mitchell, Medical Officer, to act as Senior Medical Officer	24– 9–47	to	23–10–47
Dr. R. B. Baird, Medical Officer (Pathologist) to act as Senior Pathologist	1– 2–47	to	12– 2–47
Miss M. L. Lock, Matron Grade II to act as Matron Grade I.	1– 6–47		(throughout the year)
Miss M. M. Rennie, Matron Grade II to act as Matron Grade I.	22– 6–47		(throughout the year)
Mr. W. M. Carnie, Senior Health Inspector to act as Chief Health Inspector	17– 2–47	to	31–12–47

PROMOTIONS

Miss M. M. Rennie, Nursing Sister, to be Matron Grade II.	24– 1–47
Dr. J. N. P. Davies, Medical Officer, to be Pathologist	1– 1–47
Dr. D. D. McCarthy, Senior Medical Officer to be A.D.M.S.,	9– 5–47

TRANSFERS

Miss A. Beecroft, Nursing Sister, to be Matron, Zanzibar	6– 8–47
Dr. P. B. Robinson, D.D.M.S., to be D.M.S., Northern Rhodesia	26– 3–47
Dr. J. R. C. Spicer, Medical Officer, to be Senior Medical Officer, Tanganyika	23– 9–47

RESIGNATIONS

Miss S. Anderson	31–12–47
Miss F. M. B. Armstrong	29–11–47
Miss A. M. Atcheson	1– 6–47
Miss E. Busse	5–10–47
Miss B. R. Garman	1– 5–47
Miss M. M. E. Smith	1– 9–47
Miss M. E. Stone	19– 1–47
Miss F. Thurston	1– 8–47
Miss B. M. Williams	1–12–47
Miss E. C. N. Wilson	29– 7–47

Honours

Mr. G. Gillanders to be a Member of the Most Excellent Order of the British Empire (Civil Division).

Mr. G. H. E. Hopkins, M.A., F.R.E.S., to be an Officer of the Most Excellent Order of the British Empire (Civil Division).

Mr. Abdullah Alikabu, Senior Health Orderly, awarded Certificate of Honour.

Mr. Israeli Lutu, First Grade Hospital Assistant, awarded Certificate of Honour.

Mr. Joseph Anthony Fernandes, Chief Clerk, awarded Certificate of Honour.

(B) LIST OF ORDINANCES, Etc., AFFECTING PUBLIC HEALTH, ENACTED DURING THE YEAR.

No Ordinances were enacted.

Registration of Medical Practitioners and Dentists.

The Ordinance governing registration came into force on the 1st July, 1913. The numbers actually on the registers on the 31st December, 1947, were:—

Registered Medical Practitioners	116
Dentists	5
Licensed Medical Practitioners	78

Registration of Midwives.

The Ordinance governing registration came into force on the 31st March, 1927. The numbers actually on the register on the 31st December, 1947, were:—

Europeans and Asians	156
Africans	460
Seychellois	1

(C) FINANCIAL.

The expenditure on medical services was £413,013 which represents 7·74 per cent. of the total revenue of the Protectorate.

The total revenue of the Department was £12,613 18s. 73cts.

Table I.

SANCTIONED ESTABLISHMENT 1947.

Administrative Division.

Director of Medical Services	1
Deputy Director of Medical Services	1
Assistant Director of Medical Services	1
Medical Superintendent, Mulago	1
Chief Matron	1
Chief Health Inspector	1
Accountant	1
Administrative Assistant	1
Office Superintendent	1
Stenographer-Secretary	2
Chief Pharmacist	1
Asian Clerks	15

Executive Division.

Specialists	9
Senior Medical Officers	6
Medical Officers	34
Dental Officers	2
Hospital Superintendent	1
European Clerk and Storekeeper	1
Receptionist Clerk (European and Asian Hospitals)	1
Wardmaster	1
Superintendent Mental Hospital	1
Male Nurse ,, ,,	1
Female Nurse ,, ,,	1
Pharmacists	5
Instructor of Hygiene	1
Assistant Instructor of Hygiene	1
Senior Health Inspectors	3
Health Inspectors	14
Sanitary Overseers	3
Radiographers	2
Dental Mechanics	2
Matrons	7
Nursing Sisters	45
Masseuses	2
Asian Nurses and probationers	9
Asian Medical Officers	2
Senior Sub-Assistant Surgeon	1
Sub-Assistant Surgeons	8
Asian Assistant Storekeeper	1
Asian Cooks	2

Laboratory Division

Senior Pathologist	1
Pathologists	3
Government Chemist	1
Senior Entomologist	1
Entomologists	2
Biochemist	1
Laboratory Assistants	4
Assistant Bacteriologist	1
Physiological Laboratory Superintendent	1
Optometrist	1

Yellow Fever and other Virus Research.

Pathologist	1
Laboratory Assistant	1
Stenographer Secretary	1
Entomologist	1

African Establishment.

Assistant Medical Officers	60
Laboratory Technician	1
Clerks	47
Medical Assistants	271
Health Inspectors	97
Laboratory Assistants	39
Dispensers	36
Entomological Orderlies	2
Artizans	5
African nurses and midwives	487

In addition to the above there are varying numbers of African staff, including nursing orderlies, laboratory orderlies, health orderlies, wardmaids, cooks, dhobies and other miscellaneous and menial staff employed at all hospitals.

Table II.

ACTUAL EXPENDITURE.

	£	s.	cts
Personal Emoluments	200,032	17	58
Other Charges:—			
Stores, drugs and equipment	105,654	11	19
Hospitals and laboratory maintenance ..	41,593	9	20
Control of epidemic and endemic diseases	14,440	9	14
Public health propaganda	174	19	42
Miscellaneous Services (including travelling and transport of staff, transport of stores, telephones, water charges, electricity, publications etc. ..	34,660	10	75
Contributions:—			
Grants to missions for maintenance of midwifery centres	5,675	0	00
Grants to missions for relief of leprosy ..	3,998	19	77
Contributions Internal	645	0	0
Contributions External	777	15	00
No. XVIII Medical			
SpecialExpenditure			
Building Grants to leper settlements ..	500	0	00
Portable X–Ray sets	2,937	11	88
Dental Survey of African Schools ..	75	0	00
Seven motor vehicles	1,251	10	35
Purchase and installation of cold storage chamber	85	12	27
Grant to Church Missionary Society for Kabarole Hospital	500	0	00
Mulago Hospital African Staff Recreation Fund	10	0	00
	413,013	6	55

REVENUE.

The total amount of revenue collected was as follows:—

Hospital and dental fees, registration fees	12,613	18	72
Re-imbursements from Kenya and Uganda Railways and Harbours on account of medical services	1,426	15	01
Contribution from Native Administrations towards cost of medical attendants and stores for sub-dispensaries	9,001	0	00
	23,041	13	74

Table III.

STATISTICS OF POPULATION.

The only statistics available are shown in Tables A and B.

Table IV.

METEOROLOGICAL RETURN.

No information is available.

Tables V and VI.—Return of Diseases and Deaths for the Year 1947.

	DISEASES	Remaining in Hospital at end of 1946		Yearly Admissions		Total Cases Treated		Total Deaths		Remaining in Hospital at end of 1947		All Cases including both In and Out-Patients	
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1.	(*a*) Typhoid fever	8	5	132	93	140	98	33	11	6	7	132	93
	(*b*) Paratyphoid fever	..	..	9	1	9	1	..	..	..	..	10	1
2.	Typhus fever	2	..	20	11	22	11	3	..	1	..	21	11
3.	Relapsing fever	15	5	313	126	328	131	17	2	3	1	400	157
4.	Undulant fever	..	..	8	3	8	3	1	1	..	..	9	3
5.	Smallpox	1	..	111	66	112	66	..	1	5	5	247	137
6.	Measles	..	..	253	187	253	187	..	2	3	3	744	431
7.	Scarlet fever	..	..	20	9	20	9	..	..	..	..	32	6
8.	Whooping cough	3	3	207	224	210	227	8	7	3	4	961	1,311
9.	Diptheria	..	..	5	3	5	3	1	..	..	..	5	3
10.	Influenza—												
	(*a*) with respiratory complications	2	2	209	113	211	115	2	..	..	..	1,859	772
	(*b*) without respiratory complications	1	4	335	177	336	181	..	1	2	3	4,781	3,136
11.	Cholera	..	..	..	..	..	..	..	..	..	..	..	..
12.	Dysentery—												
	(*a*) Amoebic	5	7	353	211	358	218	10	4	17	8	1,311	693
	(*b*) Bacillary	5	4	290	145	295	149	19	9	5	2	662	315
	(*c*) Unclassified	5	..	167	91	172	91	8	7	4	1	1,037	645
13.	Plague—												
	(*a*) Bubonic	..	..	..	..	..	..	..	..	..	..	..	..
	(*b*) Pneumonic	..	..	..	..	..	..	..	..	..	..	..	..
	(*c*) Septicaemic	..	..	1	..	1	..	..	..	..	..	1	..
14.	Acute Polimyelitis	..	..	6	1	6	1	..	..	..	..	6	1
15.	Encephalitis lethargica	1	..	4	1	5	1	1	..	..	..	4	1
16.	Cerebro-spinal fever	17	15	488	442	505	457	146	108	11	9	762	687
17.	Rabies	2	..	60	30	62	30	5	4	..	..	60	30
18.	Tetanus	..	1	28	13	28	14	14	5	..	..	46	15
19.	Tuberculosis of the respiratory system	43	3	326	78	369	81	110	9	31	7	693	149
20.	Other tuberculous diseases	16	3	59	29	75	32	5	4	12	4	102	47
21.	Leprsosy	5	..	34	9	39	9	1	..	1	..	480	209
22.	Venereal diseases—												
	(*a*) Syphilis	56	32	1,638	752	1,694	784	19	14	45	18	26,066	19,398
	(*b*) Gonorrhoea	138	24	4,468	2,763	4,606	2,787	55	4	152	42	19,983	10,128
	(*c*) Other venereal diseases ..	23	6	1,012	450	1,035	456	3	2	50	12	6,949	2,205
23.	Yellow Fever	..	..	..	..	..	..	..	..	..	..	..	..

24. Malaria—												
(*a*) Benign tertian	..	..	12	7	12	7	1	..	..	..	130	38
(*b*) Subtertian	61	44	2,495	1,888	2,556	1,932	69	62	30	17	12,584	8,222
(*c*) Quartan	1	2	181	123	182	125	2	..	3	1	1,093	684
(*d*) Unclassified	46	27	3,337	2,198	3,383	2,225	72	52	49	31	49,610	33,390
25. Blackwater fever	2	..	16	5	18	5	4	..	..	..	25	5
26. Kala-azar	1	..	..	..	1	..	..	..	..	..	..	..
27. Trypanosomiasis	6	1	26	4	32	5	3	..	2	..	45	12
28. Yaws	19	6	446	296	465	302	2	3	14	12	21,929	15874
29. Other protozoal diseases	..	1	14	6	14	7	..	..	..	..	193	99
30. Ankylostomiasis	8	3	864	582	872	585	9	9	21	12	3,614	1,995
31. Schistosomiasis	4	1	175	92	179	93	4	2	5	2	749	323
32. Other helminthic diseases	5	2	789	410	794	412	2	5	23	2	5,698	3,025
33. Other infectious and/or parasitic diseases	6	3	389	105	395	108	9	..	10	4	6,278	3,302
34. Cancer and other tumours—												
(*a*) Malignant	6	11	99	131	105	142	5	9	8	4	134	145
(*b*) Non-malignant	4	2	95	188	99	190	4	5	..	2	195	391
(*c*) Undetermined	..	..	29	41	29	41	1	3	1	..	54	96
35. Rheumatic conditions	6	4	413	185	419	189	10	1	6	3	22,702	12,630
36. Diabetes	2	1	31	7	33	8	5	2	..	..	38	18
37. Scurvy	..	..	1	..	1	..	..	..	..	..	6	3
38. Beri-Beri	..	..	..	..	..	..	..	..	..	..	1	1
39. Pellagra	..	1	69	39	69	40	2	1	..	..	231	71
40. Other diseases—												
(*a*) Nutritional	27	7	242	156	269	163	50	25	21	15	1,350	755
(*b*) Endocrine glands and general	5	..	94	72	99	72	1	1	5	2	415	245
41. Diseases of the blood and blood forming organs	18	18	702	456	720	474	57	21	26	23	3,206	2,085
42. Acute and chronic poisoning	..	1	31	20	31	21	1	3	..	1	34	23
43. Cerebral haemorrhage	..	..	10	3	10	3	4	..	..	..	13	6
44. Other diseases of the nervous system	20	4	307	119	327	123	15	14	19	6	5,530	3,162
45. Trachoma	8	8	329	295	337	303	..	..	8	8	4,286	3,456
46. Other diseases of the eye and annexa	13	8	645	373	658	381	..	..	18	12	13,197	8,715
47. Diseases of the ear and mastoid sinus	7	5	226	166	233	171	..	1	2	1	7,514	5,783
48. Diseases of the circulatory system—												
(*a*) Heart diseases	15	5	203	104	218	109	45	19	6	3	646	434
(*b*) Other circulatory diseases	4	1	115	36	119	37	7	4	2	3	486	241
49. Bronchitis	12	13	626	400	638	413	13	..	7	3	4,142	2,760
50. Pneumonia—												
(*a*) Broncho-pneumonia	23	22	841	724	864	746	69	71	8	13	1,905	1,228
(*b*) Lobar-pneumonia	44	26	2,093	852	2,137	878	157	54	43	16	2,834	1,271
(*c*) Otherwise defined	23	7	647	216	670	223	64	16	10	2	1,369	800

DISEASES	Remaining in Hospital at end of 1946		Yearly Admissions		Total Cases Treated		Total Deaths		Remaining in Hospital at end of 1947		All Cases including both In and Out-Patients	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
51. Other diseases of the respiratory system	24	20	847	510	871	530	20	9	17	13	51,141	32,867
52. Diarrhoea and enteritis—												
(*a*) Under 2 years of age ..	17	2	108	133	125	135	12	13	2	8	3,779	2,453
(*b*) Over 2 years of age	3	4	202	130	205	134	5	8	5	3	4,600	2,836
53. Appendicitis	1	..	72	129	73	129	2	1	3	..	87	139
54. Hernia, intestinal obstruction ..	52	6	1,186	243	1,238	249	99	28	35	4	2,424	418
55. Cirrhosis of the liver	4	..	105	32	109	32	24	9	7	2	128	43
56. Other diseases of the liver and biliary passages	22	1	137	80	159	81	16	6	7	..	351	218
57. Other diseases of the digestive system												
58. Nephritis (all forms)—	44	23	1,155	792	1,199	815	27	27	17	8	37,017	26,221
(*a*) Acute	2	1	54	35	56	36	14	11	2	1	163	131
(*b*) Chronic	4	2	72	32	76	34	23	5	4	1	93	40
59. Other non-venereal diseases of the genito-urinary system	15	17	1,025	705	1,040	722	15	17	22	6	3,036	3,321
60. Diseases of pregnancy, childbirth, and the puerperal state—												
(*a*) Abortion	..	13	..	1,011	..	1,024	..	31	..	19	..	1,378
(*b*) Ectopic gestation	..	3	..	41	..	44	..	3	..	1	..	44
(*c*) Toxaemias of Pregnancy ..	..	1	..	29	..	30	..	1	..	..	..	45
(*d*) Other conditions of the puerperal state	..	16	..	776	..	792	..	64	..	26	..	3,471
61. Diseases of the skin, cellular tissue, bones and organs of locomotion ..	358	134	7,903	3,100	8,261	3,234	150	65	406	157	82,056	38,615
62. Congenital malformations and diseases of early infancy—												
(*a*) Congenital debility (children under 1 year)	..	..	42	56	42	56	31	41	..	..	121	108
(*b*) Premature birth (children under 1 year)	1	2	21	80	22	82	9	15	..	..	22	87
(*c*) Injury at birth (children under 1 year)	..	..	50	37	50	37	34	24	..	..	50	38
63. Senility	1	..	9	4	10	4	..	..	..	..	9	15
64. External causes—												
(*a*) Suicide	..	..	..	..	..	..	..	..	..	..	1	..
(*b*) Other forms of violence ..	181	51	3,935	1,507	4,116	1,558	118	42	174	65	48,548	17,678
65. Ill-defined causes	34	50	1,007	793	1,041	843	52	29	71	10	14,705	7,778

66.	Malingering	..	..	16	8	16	8	..	..	..	..	269	65
67.	Ante-natal supervision	..	25	..	1,668	..	1,693	..	1	..	62	..	33,603
68.	Normal living babies	41	56	2,050	1,957	2,091	2,013	11	7	21	24	2,050	1,957
69.	Post-natal supervision	..	..	1	148	1	148	..	6	..	2	5,210	5,854
70.	Normal labour	..	70	..	5,685	..	5,755	..	39	..	113	..	5,685
	TOTAL ..	1,548	845	47,145	36,048	48,693	36,893	1,813	1,080	1.491	849	495,459	336,980
71.	Examinations	2	1	143	116	145	117	..	..	3	6	31,138	7,988
	Dispensaries											871,565 1,421,560	
	GRAND TOTAL	1,550	846	47,288	36,164	48,838	37,010	1,813	1,080	1,494	855	2,293,125	

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